



GEOTECHNICAL ENGINEERING REPORT PROPOSED WIND RENEWABLE GENERATING FACILITY COLEBROOK SOUTH FLAGG HILL ROAD COLEBROOK, CONNECTICUT

PREPARED FOR:

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GEOTECHNICAL ENGINEERING REPORT Proposed Wind Renewable Generating Facility Colebrook South Flagg Hill Road Colebrook, Connecticut



1.00 PROJECT LOCATION & DESCRIPTION

The project site is located west of Flagg Hill Road in Colebrook, Connecticut. The proposed project includes installation of three 1.6 MW wind turbines. The undeveloped site is shown on Figure 1, Locus Plan and the turbine locations are shown on Figure 2, Exploration Location Plan. The project includes constructing paved and unpaved roads, assembly areas, crane pads, surface drainage controls, pads for electrical equipment, and turbine foundations. These major features are shown on Figure 2.

2.00 GEOTECHNICAL OBJECTIVE & SCOPE

The objective of this report is to summarize the results of the subsurface investigations performed to date and provide proposed turbine foundation recommendations based on this information. Laboratory testing on soil and rock samples is currently underway and geophysical testing at turbine locations is planned. The turbine foundation design has been prepared by GZA and is presented on Wind Colebrook South, Foundation Set, Drawings B-101, B-102 and B-103, dated August 26, 2011. The turbine foundation design will be refined and finalized based on the additional information referenced above.

This report provides the exploration locations, boring and test pit logs, an evaluation of the subsurface conditions for the project, and turbine foundation recommendations.

3.00 SUBSURFACE INVESTIGATIONS

A subsurface exploration program, consisting of four test borings and fifty-two test pits, was completed from July 20 through 27, 2011 and August 22, 2011. The borings were drilled by New Hampshire Borings and the test pits were dug by HTS Construction. A GZA Engineer observed the borings, classified the subsurface materials and prepared exploration logs. Except for CSTP-1 through 9 and CSTP-37 through 47, GZA observed the test pits. These test pits were observed and logged by personnel from Civil1. For completeness, these logs are included in this report.

The soils encountered were classified according to the Modified Burmister Classification system. Details of the Modified Burmister Classification system, as well as the boring and test pit logs are presented in Appendix B and C.

The as-built exploration locations were located in the field by survey performed by Riordan Land Surveying. The locations of the explorations are indicated on Figure 2. Summaries of the explorations and subsurface conditions encountered are presented on Table 1.

Borings

The borings were drilled to depths ranging from 21 to 44.5 feet below the existing ground surface. The following borings were drilled:



Boring	Location	Ground Surface Elevations, Feet
CSGZ-1	Turbine 2	1450
CSGZ-2	Turbine 1	1452
CSGZ-3	Turbine 3	1449
CSGZ-4	Turbine 3	1448

Test borings in glacial till were advanced using steel casing and rotary wash techniques. Standard Penetration Test(s) (SPTs) were performed and split spoon soil samples collected at the ground surface and at five-foot intervals thereafter, in general accordance with ASTM D1586. SPT sampling consists of advancing a 1%-inch inside diameter standard split spoon sampler at least 24 inches with a 140-pound safety hammer dropping from a height of 30 inches. The SPT value, often referred to as the "N" value, is the number of blows per foot of penetration required to drive the sampler from 6 to 18 inches of penetration.

When required, coring was performed using a diamond bit with an NX double tube, ridge-type core barrel in accordance with ASTM D-2113-83. The rock type description, the core recovery for each coring interval, and the rock quality designation (RQD) values expressed in percent for each run are recorded on the test boring logs. The RQD values reflect the quality and fracture spacing of the rock and are calculated as a summation of all unbroken core samples of four inches or more in length divided by the total length of each coring interval. The core recovery percentage and RQD values provide a qualitative understanding of the physical and engineering properties of bedrock.

Upon extraction of each core run, the rock was examined and classified according to rock type, color, weathering, hardness, fracture zones, solution cavities, foliation, and fracture inclination. The rock cores were boxed with the pertinent information transposed onto each core box.

Because casing and drilling fluid were used, depths to groundwater were not able to be measured in the boreholes during drilling. A groundwater observation well was installed in boring CSGZ-4. Groundwater measurements were taken on August 23, 2011 at CSGZ-4 and the open boring at CSGZ-1. Groundwater measurements are presented on the boring logs and summarized in Table 1. Boreholes and test pits were filled with soil cuttings upon completion.

Test Pits

The test pits were generally located at the proposed turbine foundation locations, at crane pad areas, along the proposed access roads, assembly areas, and at surface drainage control areas. The test pit locations are shown on Figure 2.



When encountered, depths to groundwater were measured in the excavated test pits. Groundwater measurements are presented on the test pit logs and summarized in Table 1.

4.00 GENERALIZED SUBSURFACE CONDITIONS

Shallow bedrock (less than three feet) was encountered in Borings CSGZ-1 and CSGZ-2 and 30 feet of rock core was obtained in each of these borings. Shallow glacial till (less than 3 feet) was encountered in Boring CSGZ-3 and CSGZ-4 and up to 30 feet of glacial till was drilled and sampled before bedrock was encountered.

A generalized description of subsurface conditions is provided below. Refer to the boring and test pit logs in Appendices B and C for more specific information.

- Approximately six to twelve inches of **topsoil** and forest mat was encountered at the ground surface. In this report, this layer is identified as topsoil.
- <u>Subsoil</u> was present directly below the topsoil and vegetation, and extended to depths between 1.5 and 4 feet. The subsoil generally consists of brown fine to coarse sand with about 10 to 35 percent silt. Indications of cobbles and boulders embedded in the subsoil layer were noted during drilling and in test pits. SPT blow counts from borings indicate relative density of the subsoil is loose.
- Glacial till was encountered underlying the subsoil. In the areas of the access road to Turbine 1 and Turbine 2 and at these turbine locations, the glacial till typically extends to about 4 to 6 feet below grade. At Turbine 3, the glacial till was encountered to a depth of 34 feet below grade. The glacial till consists of generally gray medium dense to very dense, unsorted gravel and sand, with some to little silt. Cobbles and boulders should also be anticipated within the glacial till.
- Bedrock is described as hard, moderately weathered to fresh, extremely fractured to sound, fine to medium grained, high angle foliation, white and black gneiss. At Turbines 1 and 2, depth to bedrock is 2 to 3 feet below ground surface. At Turbine 3, the bedrock is up to 34 feet below the existing ground surface. Except for two core runs, bedrock recovery expressed as a percentage (the length of core recovered divided by the length cored), generally varied between 93 and 100 percent. The exceptions are the initial core runs in CSGZ-1 and CSGZ-3 which are 28 and 8 percent, respectively.

The RQD values are generally between 25 and 91 percent with several values below 10 percent. Based on core times, recoveries, RQD, and observations of

bedrock core, the upper 5 to 10 feet of bedrock is in general more weathered and fractured.

Groundwater was observed in Test Pits CSTP-25, CSTP-27, CSTP-36, and CSTP-47 and measured in monitoring wells installed in Borings CSGZ-1 and CSGZ-4. Groundwater in the test pits was observed from 4 to 8 feet below the existing ground surface. The test pits that encountered groundwater are located on the northwest part of the site at the Turbine 3 location and to the east along the proposed access road. Monitoring wells installed at Turbine 2 and Turbine 3 were read approximately one month after installation. Groundwater was measured at 17 feet below ground surface at Turbine 2 (CSGZ-1) and 7.2 feet below ground surface at Turbine 3 (CSGZ-4).

The groundwater levels at the two bedrock controlled turbine locations (Nos. 1 and 2) are likely similar. Some perched groundwater may be encountered in the glacial till or subsoil above the bedrock, especially in the spring due to the infiltration of snowmelt. At Turbine 3, groundwater was encountered at a relatively shallow depth in the thicker deposits of glacial till. The groundwater level in this area is likely controlled by watercourses and wetlands in the vicinity.

It is anticipated that groundwater levels will vary due to variations in rainfall and other factors different than those prevailing at the time the explorations were performed and the measurements were made. It should be noted that the seasonally lowest groundwater levels typically occur during the late summer and fall months.

5.00 TURBINE FOUNDATION DESIGN DISCUSSION

GZA has prepared the turbine foundation design based on the results of the subsurface explorations completed to date. Laboratory test results and geophysical testing will be provided when they become available and turbine foundation design will be refined and finalized. The current turbine foundation design shown on Drawings B-101, B-102 and B-103 is the largest foundation diameter we currently anticipate.

Our general conclusions are as follows:

- The subsurface conditions encountered at the site are suitable for support of gravity spread footing foundations. Foundations for Turbines 1 and 2 will be supported directly on bedrock and the foundation for Turbine 3 will be supported on glacial till and will be constructed with reinforced concrete
- Recommended foundations are planned to be octagonally shaped with a dimension of 58 feet between opposing sides. The bottom of foundation is planned to be 9 feet below finished grade.
- Controlled blasting techniques should be used for bedrock removal for cuts in bedrock for foundations, access roads, crane pads and laydown areas.



The glacial till soils at the site contain elevated percentages of silt. These soils
can be disturbed by construction traffic when wet and can be very difficult to
use as backfill in the winter or wet weather months. Excavated surfaces will
need subgrade protection that may consist of a concrete mud mat or compacted
gravel over a layer of filter fabric.



• The glacial till and bedrock typically have a relatively low permeability and it is not anticipated that significant amounts of groundwater will be encountered during excavations for the foundations. If water is encountered (groundwater or precipitation within excavations), it should be removed from the excavation by pumping from sumps.

TABLES

TABLE 1
SUMMARY OF EXPLORATION DATA
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COLEBROOK, CONNECTICUT

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Notes:

1. KT = Not Enzountered, ND = Not Detarmined/Messured

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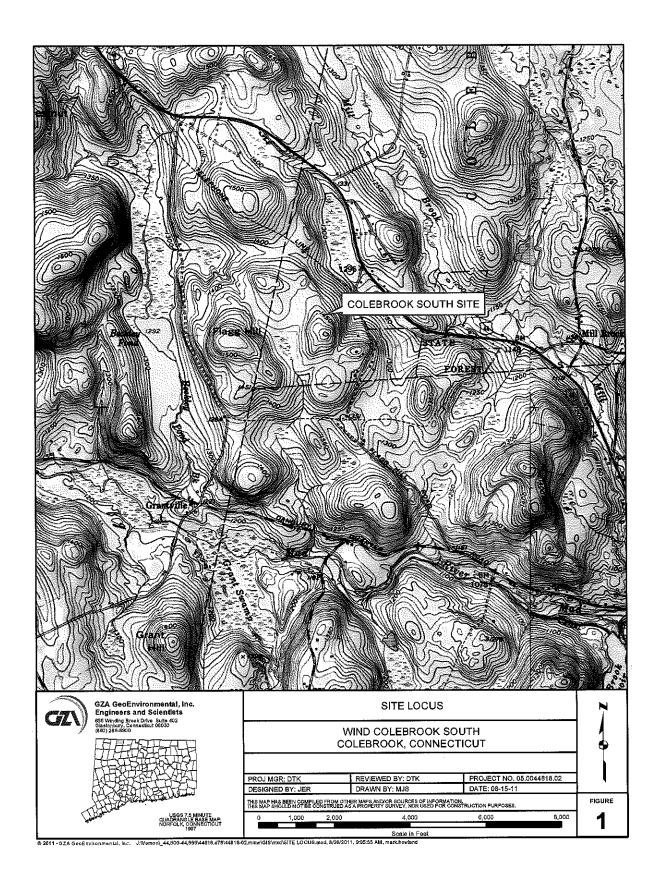
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FIGURES



APPENDIX A LIMITATIONS

LIMITATIONS

Explorations

- 1. The analyses and recommendations submitted in this report are based in part upon the data obtained from subsurface explorations. The nature and extent of variations between these explorations may not become evident until construction. If variations then appear evident, it will be necessary to reevaluate the recommendations of this report.
- 2. The generalized soil profile described in the text is intended to convey trends in subsurface conditions. The boundaries between strata are approximate and idealized and have been developed by interpretations of widely spaced explorations and samples; actual soil transitions are probably more erratic. For specific information, refer to the exploration logs.
- 3. Water level readings have been made in the explorations at times and under conditions stated on the exploration logs. These data have been reviewed and interpretations have been made in the text of this report. However, it must be noted that fluctuations in the level of the groundwater may occur due to variations in rainfall, temperature, and other factors occurring since the time measurements were made.

Review

4. In the event that any changes in the nature, design or location of the proposed building are planned, the conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed and conclusions of this report modified or verified in writing by GZA. It is recommended that this firm be provided the opportunity for a general review of final design and specifications in order that earthwork and foundation recommendations may be properly interpreted and implemented in the design and specifications.

Construction

5. It is recommended that this firm be retained to provide soil engineering services during construction of the excavation and foundation phases of the work. This is to observe compliance with the design concepts, specifications, and recommendations and to allow design changes in the event that subsurface conditions differ from those anticipated prior to start of construction.

Use of Report

6. This report has been prepared for the exclusive use of Civil1 and their design consultants for specific application to the proposed BNE Wind Farm Development at Colebrook South, in Colebrook, Connecticut in accordance with generally accepted soil and foundation engineering practices. No warranty, express or implied, is made.

- 7. This soil and foundation engineering report has been prepared for this project by GZA. This report is for design purposes only and is not sufficient to prepare an accurate bid. Contractors wishing a copy of the report may secure it with the understanding that its scope is limited to design considerations only.
- 8. This report may contain comparative cost estimates for the purpose of evaluating alternative foundation schemes. These estimates may also involve approximate quantity evaluations. It should be noted that quantity estimates may not be accurate enough for construction bids. Since GZA has no control over labor and materials cost and design, the estimates of construction costs have been made on the basis of experience. GZA does not guarantee the accuracy of cost estimates as compared to contractor's bids for construction costs.

APPENDIX B BORING LOGS

APPENDIX B EXPLORATION LOGS

EXPLANATION OF SAMPLE DESCRIPTIONS

SOIL DESCRIPTION

Soil sample descriptions are based on a modification of the Burmister identification system. The following explains the key soil classification terminology.

Component Gradation Terms:

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Gravel	Coarse	³ / ₄ " to 3"
	Fine	No. 4 to 3/4"
Sand	Coarse	No. 10 to No. 4
	Medium	No. 40 to No. 10
	Fine	No. 200 to No. 40
Fines		Passing No. 200

Relative Density or Consistency Terms:

Non-Pla	stic Soils	Plastic	Soils
Blows/Ft	Density	Blows/Ft	Plastic Soils
0 to 4	Very Loose	< 2	Very Soft
4 to 10	Loose	2 to 4	Soft
10 to 30	Medium Dense	4 to 8	Medium Stiff
30 to 50	Dense	8 to 15	Stiff
> 50	Very Dense	15 to 30	Very Stiff
		> 30	Hard

Fines Fraction:

Plasticity	PI	Name	Smallest Thread Diameter Rolled
Non-Plastic	0	SILT	None
Slight	1 to 5	Clayey SILT	1/4"
Low	5 to 10	SILT & CLAY	1/8"
Medium	10 to 20	CLAY & SILT	1/16"
High	20 to 40	Silty CLAY	1/32"
Very High	> 40	CLAY	1/64"

Proportional Terms:

Proportional Term	Percent by Weight
And	35 to 50
Some	20 to 35
Little	10 to 20
Trace	1 to 10

ROCK DESCRIPTION

Rock descriptions consist of the below factors plus color, rock type, and other pertinent characteristics. EXAMPLE: Moderately hard, slightly weathered, slightly fractured, fine grained, red-brown SILTSTONE, medium shallow dipping bedding, occasional high angle joints with clay and calcite fillings.

HARDNESS

Very hard	Cannot be scratched with knife or sharp pick; requires several hard blows of hammer to break.
Hard	Can be scratched with knife or sharp pick with difficulty; requires hard blow of hammer to break.
Moderately Hard	Can be scratched with knife or pick; breaks with moderate blow of hammer.
Soft	Can be gouged or scraped by knife or sharp pick; small thin pieces can be broken with fingers.
Very Soft	Can be easily scraped or peeled with knife; crumbles under hammer blow; pieces 1 inch or more in thickness can be broken with fingers.
WEATHERING	
	No visible signs of decomposition or discoloration; rings under hammer impact if crystalline.

Slightly Weathered Slight discoloration from open fractures extending inwards up to 1 inch; otherwise similar to fresh. Moderately Weathered Discoloration throughout; weaker minerals such as feldspar decomposed; strength somewhat less than fresh rock but cores cannot be broken by hand or scraped by knife; texture preserved; has dull sound under hammer. Highly Weathered Most minerals somewhat decomposed; specimens can be broken by hand with effort or shaved with knife; core stones present in rock mass; texture becoming indistinct but fabric

Completely Weathered Minerals decomposed to soil but fabric and structure preserved (Saprolite); specimens easily crumbled or penetrated.

preserved.

ROCK CONTINUITY

Any break in rock core, even if fresh.

Extremely Fractured Moderately Fractured

Drill core stem less than 1 inch Drill core stem 1 inch to 4 inches Drill core stem 4 inches to 8 inches Drill core stem greater than 8 inches

Slightly Fractured Sound

TEXTURE

Amorphous Fine Grained Too small to be seen with naked eye

Barely seen with naked eye

Medium Grained

Barely seen with naked eye to 1/8-inch

Coarse Grained 1/8-inch to 1/4-inch

DISCONTINUITY SPACING

Description for Structural Features (Bedding, Foliation, or Flow Banding)		
Very thickly (bedded, foliated, or banded)	More than 6 feet	Very widely (fractured or jointed)
Thickly	2 to 6 feet	Widely
Medium	8 to 24 inches	Medium
Thinly	2-1/2 to 8 inches	Closely
Very thinly	3/4- to 2-1/2 inches	Very closely

ATTITUDE

Attitude	Angle
Horizontal	0° to 5°
Shallow or low angle	5 ° to 35 °
Moderately dipping	35° to 55°
Steep or high angle	55° to 85°
Vertical	85 ° to 90 °

ROCK QUALITY DESIGNATION (RQD)

RQD in % = Length of Core in Pieces 4 inches and longer x 100 Length of Run

GZA GeoEnvironmental, Inc. Engineers and Scientists

BNE WIND FARM SOUTH COLEBROOK, CONNECTICUT

EXPLORATION NO.: CSGZ-1 SHEET: 1 of 2 PROJECT NO: 44818.02 REVIEWED BY: JER

Logged By: T. Bjartmarz

Drilling Co.: New Hampshire Borings Foreman: Richard Lenard

Type of Rig: ATV Rig Model: Wildcat Boring Location: Turbine 2 South, See Plan H. Datum:

Date Start - Finish: 7/25/2011 - 7/25/2011

Ground Surface Elev. (ft.): 1450 Drilling Method: Casing/RotarFinal Boring Depth (ft.): 33.5
Wash
Date Start - Finish: 7/25/2011

Project V. Datum:

Hammer Type: Safety Hammer Hammer Weight (lb.): 140

Hammer Fall (in.): 30

Auger or Casing O.D./I.D Dia (in.): 4" O.D.

Sampler Type: Split Spoon Sampler O.D. (in.): 2 Sampler Length (in.): 24 Rock Core Size: NX

Groundwater Depth (ft.) Date Water Depth Time Stab. Time 7/25/11 1438 See Note 2 0 min. 8/23/11 1000 17' See Note 3 28 days

- ·	Casing			Samp					Ţ	Field	_ Stratum	
Deptr	Blows/ Core	No.	Depth			Blows	SPT	Sample Description Modified Burmister	Remark	Test	⊕ ∉Description ≥ ⊃	·
	Rate	S-1	(ft.) 0-2	(in) 24	(in) 4	per 6" Note 1	Value	Brown, fine to coarse SAND	1	Data		No Equipment Installed
	Pushed	J-1	0-2	27	7	NOIS 1		and ORGANIC MATTER, little	'		1 TOPSOIL1449.0	
								fine Gravel, little Silt				
								mio orator, mao ont	2		SUBSOIL 3 1447,0	
-	2										1771,0	
-	1	C-1	3.5-	60	16			Hard, moderately weathered,				
5_	1		8.5					silghtly fractured, fine to				
	0							medium grained, high angle, black and white, GNEISS				
	0							RQD = 25%, Recovery = 27%				
1	2							1100 - 2070, 11000very - 2170				
-	2		-									
	1	C-2	8.5-	60	60			Very hard, fresh to slightly				
10 _	7		13.5					weathered, slightly fractured,				
	1 1							fine to medium grained, high angle, black and white, GNEISS				
	1							RQD = 61%, Recovery = 100%			:	
-	1 1							1100 / 100 /				
	3							·				
	1	C-3	13.5-	60	59			Hard, fresh to slightly				
15_	1		18.5					weathered, slightly fractured,				
	2							fine to medium grained, high angle, black and white, GNEISS				
	1							RQD = 69%, Recovery = 98%			BEDROCK	
] 1							1142 0070, 110001019 0070				
1 .	1 1		40.5		F0 5							
	1 1	C-4	18.5- 23.5	60	59.5			Hard, fresh to slightly				
20 _	┪ '		23.0					weathered, slightly fractured, fine to medium grained, high	3			
1.	1 1							angle, black and white, GNEISS				
	1							RQD = 79%, Recovery 99%				
	1							,				·
,	1 1	C-5	00 E	60	59.5			I found for the Arms Control				
0.	1	U-0	23.5- 28.5	00	09.0			Hard, fresh to slightly weathered, sound, fine to				
25 _	4		20.0				1	medium grained, high angle,				
	1							black and white, GNEISS				
<u>:</u> .	1							RQD = 28%, Recovery 99%				
	1						1	·				
5	1	C-6	28.5-	60	57			Hard, fresh to slightly				
30	1	J.0	33.5		"			weathered, sound, fine to				
30					1		1		Ь	L	<u> </u>	

Split spoon sampler pushed into soil during sampling S-1.
 Groundwater not encountered during drilling prior to introduction of drilling fluid at 2 feet below grade.
 On August 23, 2011, borehole measured to be open to about 19.6 feet below grade. Groundwater level measured in open hole.

REMARKS

Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.: CSGZ-1

GZA GeoEnvironmental, Inc. Engineers and Scientists

BNE WIND FARM SOUTH COLEBROOK, CONNECTICUT

EXPLORATION NO.: CSGZ-1 SHEET: 2 of 2 PROJECT NO: 44818.02 REVIEWED BY: JER

Logged By: T. Bjartmarz

Drilling Co.: New Hampshire Borings Foreman: Richard Lenard

Type of Rig: ATV Rig Model: Wildcat Drilling Method: Casing/RotarFinal Boring Depth (ft.): 33.5
Wash
Pate Start - Finish: 7/25/2011

Boring Location: Turbine 2 South, See Plan H. Datum: Ground Surface Elev. (ft.): 1450

Date Start - Finish: 7/25/2011 - 7/25/2011

8/23/11

Project V. Datum: Project

Hammer Type: Safety Hammer Hammer Weight (lb.): 140

Hammer Fall (in.): 30

Auger or Casing O.D./I.D Dia (in.): 4" O.D.

Sampler Type: Split Spoon Sampler O.D. (in.): 2 Sampler Length (in.): 24 Rock Core Size: NX

Groundwater Depth (ft.) Date Time Water Depth 7/25/11 1438

1000

Stab. Time See Note 2 0 min. 17' See Note 3 28 days

-	CATTER!							***	1			
Depth (ft)	Casing Blows/ Core Rate	No.	Depth (ft.)	Samp Pen. (in)	Rec.	Blows per 6"	SPT Value	Sample Description Modified Burmister	Remark	Field Test Data	Stratum Description	
-	1 1				(**)	•		medium grained, high angled, black and white, GNEISS RQD = 61%, Recovery = 100%	-	2-0110	BEDROCK	
35_	•							End of exploration at 33.5 feet.			33.5 1416.5	
- - 40_ -												
- 45 _ -							1 - 1 - 1 - 1					
50_												
- 55 _ - -										·	·	
60												

REMARKS

Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.: CSGZ-1

GZA TEMPLATE TEST BORING W/ EQUIP.; 8/26/2011; 12:01:08 PM

GZA GeoEnvironmental, Inc. Engineers and Scientists

BNE WIND FARM SOUTH COLEBROOK, CONNECTICUT EXPLORATION NO.: CSGZ-2 SHEET: 1 of 2 PROJECT NO: 44818.02 REVIEWED BY: JER

Logged By: T. Bjartmarz

Drilling Co.: New Hampshire Borings

Type of Rig: ATV Rig Model: Wildcat Boring Location: Turbine 1 South, See Plan H. Datum: Ground Surface Elev. (ft.): 1452

Project

Foreman: Richard Lenard

Drilling Method: Casing/Rota Wash

Final Boring Depth (ft.): 31.5 Date Start - Finish: 7/26/2011 - 7/26/2011 V. Datum: Project

Hammer Type: Safety Hammer Hammer Weight (lb.): 140

Hammer Fall (in.): 30 Auger or Casing O.D./I.D Dia (in.): 4" O.D.

Sampler Type: Split Spoon Sampler O.D. (in.): 2 Sampler Length (in.): 24

Rock Core Size: NX

Date Time Water Depth 7/26/11 1530 See Note

Groundwater Depth (ft.)

Stab. Time 0 min.

	Casing			Samp	ıle				بجا	F: 1.1	Τ.	Stratum				
Depth (ft)	Blows/ Core	No.	Depth	Pen.	Rec.	Blows	SPT	Sample Description	Remark	Field Test	8	Stratum @Description	<u>;</u>			
(10)	Rate	S-1	(ft.) 0-0.9	(in)	(in) 6	per 6" Note 1	Value			Data	-		ū E	No Equi	pment Inst	alled
_		3-1	0-0.9	11	6	Note		Brown, fine to coarse SAND, some fine to coarse Gravel, little	1		1	TOPSOIL14	51.0			
_								Silt, trace Roots	_		2	SUBSOIL14	50.0			
_	2	C-1	2.5-	48	45			Hard, moderately weathered,	2							
_	2		6.5					extremely fractured, fine to								
5_	2							medium grained, high angle,					İ			
	2							white and black, GNEISS RQD = 10%, Recovery = 94%								
_	1	C-2	6.5-	60	58			Hard, moderately weathered,								
	1		11.5					moderately fractured, fine to								
	2							medium grained, high angle,								
10	2							white and black, GNEISS RQD = 43%, Recovery = 97%								
	2							NQD - 45%, Necovery - 97%								
-	2	C-3	11.5-	60	59			Hard, slightly weathered, slightly								
-	2	U-3	16.5	00	35			fractured, fine to medium								
-	3							grained, high angle, white and								
15	4							black, GNEISS								
'0 _	3							RQD = 91%, Recovery = 98%								
-	3	C-4	40.5									BEDROCK				
-	2	U-4	16.5- 21.5	60	56			Hard, slightly weathered, slightly fractured, fine to medium								
-	1							grained, high angle, white and								
20	2						į	black, GNEISS								
20 -	1							RQD = 90%, Recovery = 93%								
-	2	٥.	04.5	00	50.5											
-	3	C-5	21.5~ 26.5	טט	59.5			Hard, slightly weathered, extremely fractured, fine to								
-	3							medium grained, high angle,								
25	3							white and black, GNEISS								
^{∠5} −	2							RQD = 28%, Recovery = 99%								
-	2															
-	3	C-6	26.5- 31.5	60	60			Hard, slightly weathered, moderately fractured, fine to								
-	3		01.0					medium grained, high angle,								
-	2							white and black, GNEISS								
30					İ		L		<u> </u>		L.,					

Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.: CSGZ-2

GZA TEMPLATE TEST BORING W/ EQUIP.: 8/26/2011; 12:01:08 PM

¹ - Split spoon sampler pushed into soil during sampling S-1. 2 - Groundwater not encountered prior to introduction of drilling fluid at 2 feet below grade.

TEST BORING LOG EXPLORATION NO.: **BNE WIND FARM SOUTH** CSGZ-2 **GZA** COLEBROOK, CONNECTICUT SHEET: 2 of 2 PROJECT NO: 44818.02 2 of 2 GeoEnvironmental, Inc. Engineers and Scientists REVIEWED BY: JER Logged By: T. Bjartmarz Type of Rig: ATV Boring Location: Turbine 1 South, See Plan H. Datum: Drilling Co.: New Hampshire Borings Rig Model: Wildcat Ground Surface Elev. (ft.): 1452 Project Drilling Method: Casing/RotarFinal Boring Depth (ft.): 31.5 Wash Pote Start Finish: 7/36/2011 Foreman: Richard Lenard V. Datum: Date Start - Finish: 7/26/2011 - 7/26/2011 Project Groundwater Depth (ft.) Hammer Type: Safety Hammer Sampler Type: Split Spoon Date Time Water Depth Stab. Time Sampler O.D. (in.): 2 Hammer Weight (lb.): 140 7/26/11 1530 See Note 0 min. Hammer Fall (in.): 30 Sampler Length (in.): 24 Auger or Casing O.D./I.D Dia (in.): 4" O.D. Rock Core Size: NX Casing Blows/ Sample Stratum Field Depth ⊕Description ≥ ⊕ Sample Description Depth Pen. Rec. SPT Test (ft) Core No. Modified Burmister (in) (in) per 6" Value (ft.) Data Rate RQD = 61%, Recovery = 100% 3 31.5 BEDROCK 1420.5 End of exploration at 31.5 feet. 35 40 45 50 GZA TEMPLATE TEST BORING W/ EQUIP.; 8/26/2011; 12:01:09 PM 55

REMARKS

Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.: CSGZ-2

GZA GeoEnvironmental, Inc. *Engineers and Scientists* BNE WIND FARM SOUTH COLEBROOK, CONNECTICUT

EXPLORATION NO.: CSGZ-3 SHEET: 1 of 2 PROJECT NO: 44818.02 REVIEWED BY: JER

Logged By: T. Bjartmarz

Drilling Co.: New Hampshire Borings Foreman: Richard Lenard

Type of Rig: ATV Rig Model: Wildcat Drilling Method: Casing/RotarFinal Boring Depth (ft.): 44.5

Boring Location: Turbine 3 South, See Plan H. Datum: Ground Surface Elev. (ft.): 1449

Date Start - Finish: 7/26/2011 - 7/26/2011

Date

Project V. Datum: Project

Hammer Type: Safety Hammer Hammer Weight (lb.): 140

Hammer Fall (in.): 30

Auger or Casing O.D./I.D Dia (in.): 4" O.D.

Sampler Type: Split Spoon Sampler O.D. (in.): 2 Sampler Length (in.): 24 Rock Core Size: NX

Groundwater Depth (ft.) Time Water Depth Stab. Time See Note

	Casing			Samp	le				ŀΈ	Field	_ Stratum	
Depth (ft)	Blows/ Core Rate	No.	Depth (ft.)	iPen. (in)		Blows per 6"	SPT Vaiue	Sample Description Modified Burmister	Remark	Test Data	ੂੰ ਉDescription ਨੂੰ ਦੂ	No Equipment Installed
-		S-1	0-2	24	9	4 5 15 10	20	Medium dense, brown, fine to coarse SAND, some fine to coarse Gravel, little Silt, trace Organic Matter	1		1 TOPSOIL1448.0 SUBSOIL 3 1446.0	. ,
5_		S-2	5-7	24	20	4 12 14 15	26	Medium dense, gray, fine to coarse SAND, some Silt, little fine Gravel (moist)		Į.		
10_		S-3	10-12	24	23	2 10 12 17	22	Medium dense, gray, fine to coarse SAND, some Silt, little fine to coarse Gravel (moist)				
15_		5-4	15-17	24	15	3 11 16 37	27	Medium dense, gray, fine to coarse SAND, some Silt, little fine to coarse Grave! (moist)	2		GLACIAL TILL	
20		S-5	20-22	24	12	16- 38 51 22	89	Very dense, gray, fine to coarse SAND, some Silt, little fine to coarse Gravel (moist)				
25		S-6	25-27	24	16	11 13 24 32	37	Dense, gray, fine to coarse SAND and SILT, little fine Gravel (moist)				
30												

1 - Groundwater not encountered prior to introduction of drilling fluid at 2 feet below grade.
2 - Difficulty drilling may indicate possible rock or cobble from 17 to 17.5 feet below grade.

REMARKS

Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.: CSGZ-3

GZA TEMPLATE TEST BORING W/ EQUIP.; 8/26/2011; 12:01:09 PM

GZA GeoEnvironmental, Inc. Engineers and Scientists

BNE WIND FARM SOUTH COLEBROOK, CONNECTICUT

EXPLORATION NO.: CSGZ-3 SHEET: 2 of 2 PROJECT NO: 44818.02 REVIEWED BY: JER

Logged By: T. Bjartmarz

Drilling Co.: New Hampshire Borings Foreman: Richard Lenard

Type of Rig: ATV

Boring Location: Turbine 3 South, See Plan H. Datum:

Date Start - Finish: 7/26/2011 - 7/26/2011

Rig Model: Wildcat Ground Surface Elev. (ft.): 1449

Drilling Method: Casing/RotarFinal Boring Depth (ft.): 44.5

Date Start Elevis 700

Project V. Datum:

Hammer Type: Safety Hammer Hammer Weight (lb.): 140

Hammer Fall (in.): 30

Auger or Casing O.D./I.D Dia (in.): 4" O.D.

Sampler Type: Split Spoon Sampler O.D. (in.): 2 Sampler Length (in.): 24 Rock Core Size: NX

Groundwater Depth (ft.) Date Time Water Depth Stab. Time See Note

D41-	Casing Blows/	Sample Sample Depth Pen. Rec. Blows SF						Ž	Field	<u> </u>		
∪eptn (ft)	Blows/ Core	No.		Pen.	Rec.	Blows	SPT	Sample Description	Remark	Field Test Data	Stratum Stratum Stratum Stratum Stratum Stratum	
(it)	Rate		(ft.)		(in)		Value		윤	Data		
		\$-7	30-32	24		25 23		Dense, gray, fine to coarse				
-						21 31	44	SAND and SILT, little fine				
							'	Gravel			GLACIAL TILL	
											GLACIAL TILL	
_												
_									ĺ		34 1415.0	
35	2	C-1	34.5-	60	5			Hard, slightly weathered,				
	1		39.5		-			moderately to extremely	ĺ			
-			00.0					fractured, fine grained, white	•			
	2							QUARTZ and GNEISS				
	1											
-								RQD = 7%, Recovery = 8%				
_	2			-								
40	2	C-2	39.5-	60	43			Hard, slightly weathered, slightly			BEDROCK	
	1	0 _	44.5	00	,			fractured, fine to medium				
-	'		44.3									
	3							grained, high angle, black and				
	2							white, GNEISS				
-								RQD = 56%, Recovery = 77%				
_	3										44.5 1404.5	
45_								End of exploration at 44.5 feet.	<u> </u>		44.5 1404.5	
-												
_												
-									Ì			
50 _									j			
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60		······		L					L			
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GZA TEMPLATE TEST BORING W/ EQUIP.; 8/26/2011; 12:01:09 PM REMARKS

Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.: CSGZ-3

GZA GeoEnvironmental, Inc. Engineers and Scientists

BNE WIND FARM SOUTH COLEBROOK, CONNECTICUT

EXPLORATION NO.: CSGZ-4 SHEET: 1 of 1 PROJECT NO: 44818.02 REVIEWED BY: JER

Logged By: T. Bjartmarz

Drilling Co.: New Hampshire Borings

Type of Rig: ATV Rig Model: Wildcat Drilling Method: Casing/Rota Wash Boring Location: 30' South of Turbine 3 Ground Surface Elev. (ft.): 1448

H. Datum: Project

Foreman: Richard Lenard

Final Boring Depth (ft.): 21 Date Start - Finish: 7/27/2011 - 7/27/2011 V. Datum: Project

Hammer Type: Safety Hammer Hammer Weight (lb.): 140

Hammer Fall (in.): 30

Auger or Casing O.D./I.D Dia (in.): 4" O.D.

Sampler Type: Split Spoon Sampler O.D. (in.): 2 Sampler Length (in.): 24 Rock Core Size: NX

Date Time Water Depth Stab. Time See Note 8/23/11 1000 7.2 26 days

Groundwater Depth (ft.)

	Casing			Samp	مار				بج	T=	_ Stratum	T	
Depth	Casing Blows/		Depth			Blows	SPT	Sample Description	Remark	Field Test	Stratum Stratum Description		
(ft)	Core Rate	No.	(ft.)	(in)	(in)	per 6"	Value	h h 1200 1 km 1 4	ģ	Data			
5_	rate	S-1	0-2	24	16	11	2	Top 6": Loose, dark brown, fine SAND and ORGANIC MATTER, some Silt Bottom 10": Loose, brown, fine to coarse SAND, little Silt, trace fine Gravel, trace Roots	1		© TOPSOIL 1447,5 SUBSOIL 3 1445.0		■ Drilling Spoils (0-9.5") PVC Riser
10		S-2	10-12	24	21	8 13 17 13	30	Dense, gray, fine to coarse SAND and SILT, little fine to coarse Gravel	2	T CONTROL OF THE CONT	GLACIAL TILL		Filter Sand (9.5-15.5') PVC Screen (10.5-15.5')
20		S-3	19-21	24	12	8 28 35 27	63	Very dense, gray, fine to coarse SAND_and fine to_coarse GRAVEL, little Silt End of exploration at 21 feet.			<u>21</u> 1427.0		
30													

Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.: CSGZ-4

GZA TEMPLATE TEST BORING W/ EQUIP.; 8/26/2011; 12:01:10 PM

^{1 -} Groundwater not encountered during drilling prior to introduction of drilling fluid at 2 feet below grade.
2 - 5 feet of 2 inch diameter, Schedule 40, threaded, flush joint, 10-slot PVC well screen set at approximately 15.5 feet below grade. Well completed to ground surface with a 2 inch diameter, Schedule 40, threaded, flush joint, PVC riser. Filter sand placed in annulus around well from 9.5 to 15.5 feet below grade. Remaining annulus filled with drilling spoils from 0 to 9.5 feet below

APPENDIX C TEST PIT LOGS

						EST	PIT I	IELL	LOG				
GZA (GeoEn	viror	menta	l, Inc.	T T		PRC	<u>JECT</u>				t Pit No.	CSTP-1
Engin	eers ar	nd Sc	ientists	3	•	BN	IE Wind T		oject			File No.	44818.02
								ook, CT				Date	7/22/2011
							CAVATIO		MENT				
GZA 1	_	eer	Brian	Baker (Civil1	I		HTS Cons				Ground E		1295'±
Weath	er				Operator		Bruce Re		E.CO.		Time Star		
					Make Capacity	Volvo 0.25		Model	EC35 15	<u> </u>	Time Cor	npieted	
					Сараспу	0.23	cu.yd.	Reach	13	ft.			
												Boulder	
]	Depth				SOIL D	DESCRIP	TION				Excav.	Count	Remark
			<u> </u>	I man							Effort	Qty. Class.	No.
	11		0.01	Topsoil							·		
	1'		0.8'	Brown, fine	CAND com	o C:1+ (C)	-hao:1)				М		
	2'			brown, time	SAND, SUII	ie siii (si	uosom)				М	2A	
	2		2.5'								101	2A	
	3 [†]		12.5	Gray, fine SA	AND, some	Silt (Glad	cial Till)					2A	
				(Cruy, 11110 E)	11 (15), 501110	DIII (-1 ,				<u> </u>		
	4'										D		
	5'										D		
	6'		6'								D		1, 2
				Excavator Re	efusal at 6'								
	7'												
	οı												
	8'											 	
	9'												
	10'												
	11'												
	12'												
]
	13'												
	14'												
	14		<u> </u>	<u> </u>									

- 1. Excavator refusal on bedrock at about 6 feet below grade.
- 2. Groundwater not encountered in test pit.

TEST PIT PLAN				L	E <u>GEND</u>			
	BOULDER	COUNT	PROP	ORTIONS	ABBREVIATIONS	EXCAV	VATION EFF	ORT
6'			τ	USED	F - Fine			
	Size Range	Letter			M - Medium	E - Easy		
l <i>7////</i>	Classification	Designation	TRACE (TR)	0-10%	C - Coarse	M - Moderate		
2'			LITTLE (LI)	10-20%	F/M - Fine to Medium	D - Difficult		
	6" - 18"	Α	SOME (SO)	20-35%	F/C - Fine to Coarse			
√ ♥	18" - 36"	В	AND	35-50%	V - Very	GRO	OUNDWATE	R
North	36" and Larger	C			GR - Gray	Elapsed Time		
Depth = 6 ft.					BN - Brown	to Reading	NE	G.W.L.
Volume = 2 cu.yd.					YEL - Yellow	(hours)	<u>‡</u>	

					1	EST	PIT F	TELD) L	OG				
GZA (GeoEn	viron	menta	l, Inc.				JECT				Tes	t Pit No.	CSTP-1A
Engine						$B\lambda$	IE Wind Tr	urbine Pro	ojeci	t			File No.	44818.02
								ook, CT					Date	7/22/2011
						EXC	AVATIO		ME	NT				·
GZA I	ngine	er	Brian	Baker (Civil1	Contractor		HTS Cons					Ground E	levation	1306'±
Weath			Dilai	Daner (CITAL	Operator		Bruce Rer					Time Star		
Weath	.CI				Make	Volvo	Digee Rei	Model	F	EC35		Time Cor		
1					Capacity	0.25	cu.yd.	Reach		15	ft.		присоса	
					Capacity									
													Boulder	
l I	Depth				SOIL	ESCRIP	TION					Excav.	Count	Remark
	•											Effort	Qty. Class.	No.
				Topsoil				*****						
	1'		1'	,								M		
	_		_	Brown, fine	SAND, som	ne Silt (Su	ubsoil)						<u> </u>	
	2'		ļ	Brown, rate	D. M. 12, 5011	(2.						М	3A	
	2												 	
	3'		İ									M	3A	
	3											141	JA	
	41		 ₄₁									D		
	4'		4'	Gray, fine SA	4 X TO	C'14 (C'I+	.:.1 T:H					ש		
				Gray, fine SA	AND, some	Sut (Gia	ciai (iii)							
	5'		 :									D		
			5.5'		0 1 7							1		
	61			Excavator Re	efusal at 5.5	· ·							 	1, 2
	7'													
	8'													
													ļ	
	9'													
	10'													
	11'													
	12'													
													<u> </u>	1
	13'													
	1.0												1	† ·
	14'													
DEM	ADVC		<u> </u>	<u> </u>								<u> </u>		Ļ

- 1. Excavator refusal on bedrock at about 5.5 feet below grade.
- 2. Groundwater not encountered in test pit.

TES	ST PIT PLA	<u>IN</u>				<u>L</u>	EGEND			
			BOULDER	COUNT	PROPO	ORTIONS	ABBREVIATIONS	EXCA	VATION EF	FORT
	6'				U	SED	F - Fine			
	/////		Size Range	Letter	!		M - Medium	E - Easy		
		1	Classification	Designation	TRACE (TR)	0-10%	C - Coarse	M - Moderate		
		2'			LITTLE (LI)	10-20%	F/M - Fine to Medium	D - Difficult		
	,		6" - 18"	Α	SOME (SO)	20-35%	F/C - Fine to Coarse			
	Ø	•	18" - 36"	В	AND	35-50%	V - Very	GR	ROUNDWAT	ER
	North		36" and Larger	C			GR - Gray	Elapsed Time		
Depth =	6	ft.					BN - Brown	to Reading	NE	G.W.L.
Volume =	2	cu.yd.					YEL - Yellow	(hours)	<u>+</u>	

					: 1	EST	PIT I	TELD	LOG			
GZA (GeoEn	viron	menta	ll, Inc.			PRO	<u> ЈЕСТ</u>			t Pit No.	CSTP-2
Engin						BN	E Wind T	urbine Pro	oject		File No.	44818.02
								ook, CT	•		Date	7/22/2011
						EXC		N EQUIPI	MENT			
GZA I	- - - - - - -	er	Brian	Baker (Civill	Contractor		HTS Con			Ground E	levation	1320'±
Weath			Diran	Duner (OITIA	Operator		Bruce Re			Time Star		
W CHIL	CI				Make	Volvo	Bigoo ite	Model	EC35	Time Cor		
					Capacity	0.25	cu.yd.		15 ft.		присков	
					Сарасну	0.23	cu.yu.	Reach	15 10.			
											Boulder	
	Depth				SOIL D	ESCRIP	TION			Excav.	Count	Remark
										Effort	Qty. Class	No.
				Topsoil								
	1'		0.8			•				M		
				Brown, fine	SAND, som	e Silt (Sı	ıbsoil)	~-				
	2'						,			M		
	_									****		
	3†		3'							M		1, 2
	3		-	Excavator Re	africal at 31					111		-, -, -
	4'			Excavator K	Stusat at J							
	4											
	<i>~</i> 1											
	5'										1	
	6'											
	7'											
	81										<u> </u>	
	9'											
	10'											ĺ.
	11'											
ľ												
l	12'											
											1	
ļ	13°											
	15											
1 _	14'	_										
	14		<u> </u>	1					-		1	1

- 1. Excavator refusal on bedrock at 3 feet below grade.
- 2. Groundwater not encountered in test pit.

	TEST PIT PLA	<u>N</u>				Ţ	<u>EGEND</u>			
			BOULDER	COUNT	PROP	ORTIONS	ABBREVIATIONS	EXCA	VATION EF	FORT
	6']			υ	SED	F - Fine			
			Size Range	Letter			M - Medium	E - Easy		
İ			Classification	Designation	TRACE (TR)	0-10%	C - Coarse	M - Moderate		
		21			LITTLE (LI)	10-20%	F/M - Fine to Medium	D - Difficult		
	A		6" - 18"	Α	SOME (SO)	20-35%	F/C - Fine to Coarse			
	· (1)	•	18" - 36"	В	AND	35-50%	V - Very	GF	ROUNDWAT	ER
	North		36" and Larger	C			GR - Gray	Elapsed Time		
Dep	ath = 3	ft,					BN - Brown	to Reading	NE	G.W.L.
Vol	ume= 1	си.yd.					YEL - Yellow	(hours)	<u></u>	

						TEST	PIT F	ELD	LOG			
GZA (GeoEn	viron	menta	l, Inc.			PROJ	ECT		Tes	t Pit No.	CSTP-3
Engin						$B\lambda$	IE Wind Tu	rbine Pro	ject		File No.	44818.02
٥							Colebro			İ	Date	7/22/2011
						EXC	CAVATION		ÆNT			
GZA]	Engine	eer	Brian	Baker (Civil1	Contractor		HTS Const			Ground E	levation	1337'±
Weath			L/XIUXX	Buker (Elvin	Operator		Bruce Rem			Time Star		
W Call	IÇI				Make	Volvo		Model	EC35	Time Cor		
					Capacity	0.25		Reach	15 ft.		пртогоа	
					Capacity	0.23	cu.yu.	IXCacii	1.5 10.			
											Boulder	
J	Depth		ł		SOIL I	DESCRIP	TION			Excav.	Count	Remark
	_									Effort	Qty. Class.	No.
				Topsoil								
	1'		1'	1						M		
				Brown, fine	SAND. littl	e Silt (Su	ıbsoil)		44.	†		
	2'				, , , , , , , , , , , , , , , , , , , ,		,			M	2B	1
	_											
	3'		3'							M	1B, 3A	
	3		-	Gray, fine SA	AND little	Silt (Glac	sial Till)		·····	111	110,011	
	4'			Gray, mic 52	MO, muc	on (Onc	Mai 1111)			D	3A	
	4		4.5'							<u> </u>	المراد	
	5'		4.5	Excavator Re	ofical of 4.5	<u> </u>				D	3A	1, 2
	3			Excavator K	ciusai ai 4	,				— D	JA.	1, 2
	<i>c</i> 1											
	6'											
	7'											
											1	
	8'											
	9'											
	10'											
	11'											
	12'											
											ĺ	
	131.											
	14'										1]
D. E. L.			Ь	1								

- 1. Excavator refusal on bedrock at 4.5 feet below grade.
- 2. Groundwater not encountered in test pit.

TEST PIT PLAN				<u>L</u>	<u>EGEND</u>			
	BOULDER	COUNT	PROPO	ORTIONS	ABBREVIATIONS	EXCA	VATION EFT	ORT
6'			U	SED	F - Fine			
1////	Size Range	Letter			M - Medium	E - Easy		
	Classification	Designation	TRACE (TR)	0-10%	C - Coarse	M - Moderate		
2'			LITTLE (LI)	10-20%	F/M - Fine to Medium	D - Difficult		
	6" - 18"	Α	SOME (SO)	20-35%	F/C - Fine to Coarse			
	18" - 36"	В	AND	35-50%	V - Very	GR	ROUNDWATE	ER
North	36" and Larger	С			GR - Gray	Elapsed Time		
Depth = 4.5 ft.					BN - Brown	to Reading	NE	G.W.L.
Volume = 2 cu.yd.					YEL - Yellow	(hours)	Ť	

						EST			LOG				
GZA	GeoEr	viror	menta	al, Inc.)ЈЕСТ				t Pit No.	CSTP-4
Engin	eers ar	nd Sc	ientist	S		$B\lambda$	IE $Wind$ T	urbine Pro	oject		ŀ	File No.	44818.02
								ook, CT				Date	7/22/2011
								N EQUIPI	MENT				
GZA I		eer	Brian	Baker (Civil1	Contractor		HTS Con				Ground E		1361'±
Weath	er				Operator		Bruce Re				Time Star		
					Make	Volvo		Model	EC35		Time Cor	npleted	
					Capacity	0.25	cu.yd.	Reach	15	ft.			
			1		l						<u> </u>	Boulder	
1	Depth				SOIL I	DESCRIP	TION				Excav.	Count	Remark
l '	ocpu,				DOLL I	Locidi	11011				Effort	Qty. Class.	
			0.5'	Topsoil			Litori	Qty. Ctass.	140.				
	1'		0.5	Brown, fine	SAND son	ne Silt (Si	ubsoil)				М		
	•			Brown, me	57 11 125, IR/II	ie om (br	absony					<u> </u>	
	2'										М	2A	
	~												
	31		3'								M		1, 2
			-	Excavator Re	efusal at 3'						111		1,2
	4'			2,700,700,700	rapar ar p								
	•								:				
	51												
	_			1								 	
	6'												
	7'												
	•												
	81												
	•												
	9'												
												1	
	10°												
	11'												
	12'												
				1									
	13'												
	14'		Ì]	
REMA	DVC												

- 1. Excavator refusal on bedrock at 3 feet below grade.
- 2. Groundwater not encountered in test pit.

	TEST	T PIT PL	AN				<u>1.</u>	<u>EGEND</u>			
				BOULDER	COUNT	PROP	ORTIONS	ABBREVIATIONS	EXCA	VATION E	FFORT
		5	1			τ	JSED	F - Fine			
			1	Size Range	Letter			M - Medium	E - Easy		
			7	Classification	Designation	TRACE (TR)	0-10%	C - Coarse	M - Moderate		
			2'			LITTLE (LI)	10-20%	F/M - Fine to Medium	D - Difficult		
		I		6" - 18"	A	SOME (SO)	20-35%	F/C - Fine to Coarse			
	-	(18" - 36"	В	AND	35-50%	V - Very	GI GI	ROUNDWA	rer
		North		36" and Larger	C			GR - Gray	Elapsed Time		
Dep	th =	3	ft.					BN - Brown	to Reading	NE	G.W.L.
Vol	ume =	1	cu.yd.					YEL - Yellow	(hours)	Ž	

Test Pit No. CSTP-5 Add CSTP-5 College Colle							EST	PIT I	TELD	LOG				
Colebrook CT]						Tes		
Brian Baker (Civil) Contractor HTS Construction Time Started Time Completed	Engine	eers at	id Sc	ientist	5		BN			oject				
Solidary Solidary													Date	7/22/2011
Companies						İ				MENT				
Make Capacity O.25 cu.yd. Reach EC35 Time Completed			eer	Brian	Baker (Civil1	1								1332'±
Depth SOIL DESCRIPTION Excav. Count Remark Effort Count Remark No.	Weath	er				1 *		Bruce Re						
Depth SOIL DESCRIPTION Excav. Count Remark Oty, Class No.												Time Con	mpleted	
Depth SOIL DESCRIPTION Excav. Count Effort Qty. Class. No.						Capacity	0.25	cu.yd.	Reach	15	ft.			
Topsoil M M M M M M M M M													Boulder	
- 1' - 1' Topsoil M - 2' - Framework of the SAND, little Silt (Subsoil) - 3' - Framework of the SAND, little Silt (Subsoil) - 4' - Framework of the SAND, little Silt (Subsoil) - 5' - Framework of the SAND, little Silt (Subsoil) - 4 - Framework of the SAND, little Silt (Subsoil) - 4 - Framework of the SAND, little Silt (Subsoil) - M - Framework of the SAND, little Silt (Sub	I	Depth	-			SOILD	ESCRIP	TION				Excav.	Count	Remark
1' 1' Brown, fine SAND, little Silt (Subsoil) 2' 4' 4.5' 5' 5' 5' 5' 5' 10' 11' 12' 12' 12' 12' 12' 12' 12' 12' 11' 12' 12' 11' 12' 12' 11' 12' 12' 11' 12' 12' 11' 12' 1												Effort	Qty. Class.	No.
2' Brown, fine SAND, little Silt (Subsoil) 3' 4' 4.5' 5' End of Exploration at 4.5' 6' 8' 10' 11' 12' 12' 12' 12' 12' 12' 12' 12' 11' 12' 12' 11' 12' 12' 11' 12'					Topsoil									
2' M		1'		1'								M		
3' 4' 4.5'					Brown, fine	SAND, little	e Silt (Su	bsoil)					-	
4' 4.5'		2'										M	ļ	
4' 4.5'		21) v	0.4	
5' End of Exploration at 4.5' 6'		3'										M	8A	
5' End of Exploration at 4.5' 6'		41										D	24	1 2
5' End of Exploration at 4.5' 6'		4		14.5'								<u> </u>		1, 2
6' 7' 8' 10' 12'		51		4.5	End of Explo	ration at 4	5'							
7' 8' 10' 12'		_			End of Engli								<u> </u>	
7' 8' 10' 12'		6'												
8' 9' 10' 12'														
9' 10' 11' 12'		7'												
9' 10' 11' 12'											•			
10' 11' 12'		8'												
10' 11' 12'														
11' 12'		9'												
11' 12'														
12'		10'										ļ	-	
12'		1.11												
		TT.												
		12!												
13'		12										 	+	
		13'												
		~*												
14'		14'												

1. Groundwater not encountered in test pit.

TEST PIT PLAN				<u>L</u>	<u>egend</u>			
I	BOULDER	COUNT	PROP	ORTIONS	ABBREVIATIONS	EXCA	VATION EFI	FORT
5'			u	SED	F - Fine			
	Size Range	Letter			M - Medium	E - Easy		
1 ////// 1	Classification	Designation.	TRACE (TR)	0-10%	C - Coarse	M - Moderate		
2 1			LITTLE (LI)	10-20%	F/M - Fine to Medium	D - Difficult		
	6" - 18"	А	SOME (SO)	20-35%	F/C - Fine to Coarse			
· - 	18" - 36"	B	AND	35-50% .	V - Very	GF	ROUNDWATE	R
North	36" and Larger	C			GR - Gray	Elapsed Time		
Depth = 4.5 ft.					BN - Brown	to Reading	NE	G.W.L.
Volume = 1.5 cu.yd.	•				YEL - Yellow	(hours)	¥	

					EST	PIT I	IELD	LOG				
GZA GeoEn				T			DJECT				t Pit No.	CSTP-8
Engineers ar	nd Sc	ientist	S		BN		urbine Pro	oject			File No.	44818.02
							ook, CT				Date	7/22/2011
							N EQUIPI	MENT				
GZA Engine	eer	Brian	Baker (Civill			HTS Con				Ground E		1428'±
Weather				Operator		Bruce Re				Time Star		
				Make	Volvo		Model	EC35		Time Cor	npleted	
				Capacity	0.25	cu.yd.	Reach	15	ft.			
		T									Boulder	
Depth				SOIL	ESCRIP'	TION				Excav.	Count	Remark
										Effort	Qty. Class.	No.
			Topsoil									
1'		1'							•	M	1B, 1A	
			Brown, fine	SAND, little	e Silt (Su	bsoil)						
2'		ļ								M	4A	
3 [†]		3'								М	1C	1, 2
			Excavator Re	efusal at 3'								
4'												
5'												
C 1												
6'											<u> </u>	
7'												
/											<u> </u>	
8'												
J												
9'												
10'												
11'												
12'												
13'												
14'												
14		1	<u> </u>							l	<u> </u>	l

- 1. Excavator refusal on bedrock at 3 feet below grade.
- 2. Groundwater not encountered in test pit.

TE	ST PIT PLA	Z	••			<u>L</u>	EGEND			
			BOULDER	COUNT	PROP	ORTIONS	ABBREVIATIONS	EXCA	VATION EF	FORT
	6'				τ	JSED	F - Fine			
			Size Range	Letter			M - Medium	E - Easy		
1 1			Classification	Designation	TRACE (TR)	0-10%	C - Coarse	M - Moderate		
1 [2'			LITTLE (LI)	10-20%	F/M - Fine to Medium	D - Difficult		
			6" - 18"	А	SOME (SO)	20-35%	F/C - Fine to Coarse			
•	\longleftrightarrow		18" - 36"	В	AND	35-50%	V - Very	GR	OUNDWATI	ER
	North		36" and Larger	С			GR - Gray	Elapsed Time		
Depth =	3	ft.					BN - Brown	to Reading	NE	G.W.L.
Volume:	= 1	cu.yd.					YEL - Yellow	(hours)	Ψ̈́	

					Ţ	EST	PIT I	EELD	LOG			
GZA	GeoEr	aviror	menta	l, Inc.	<u> </u>		PRO	DJECT		Te	st Pit No.	CSTP-9
			ientists			BN		urbine Pro	pject	1	File No.	44818.02
~								ook, CT	,		Date	7/22/2011
						EXC		N EQUIP	MENT			
GZA	Engine	eer	Brian	Baker (Civill	Contractor		HTS Con			Ground I	Elevation	1434'±
Weatl					Operator		Bruce Re		•	Time Sta		
11 0000					Make	Volvo		Model	EC35	Time Co		
					Capacity	0.25	cu.yd.	Reach		i.	присс	
					Cupacity	0.20	- ca.ya.	ACHOI				
						•					Boulder	•
	Depth		-		SOIL D	DESCRIP'	TION			Excav.	Count	Remark
										Effort	Qty. Class.	No.
				Topsoil								
	1'		1'							M		
				Dark brown,	fine SAND	and LOA	AM, little	Silt (Subsc	oil)			
	2'								•	M	12A	ļ. I
	31		31							M	12A	
				Tan, fine SA	ND, some S	Silt (Glaci	ial Till)					
	4'				•	`	,			D	4A	1, 2
			4.5'									
	5'			Excavator Re	efusal at 4.5	1				7		
	6'		1									
	*											
	7'		-	1								
	,											
	8'		1									
	U		1							<u> </u>	†	
	9'		1									
	7										-	
	10'											
	10											
	11)						•					
	11'											
	10!									1		
	12'									-	<u> </u>	<u> </u>
	107											
	13"									<u> </u>		1
	1.41											
	14'		<u> </u>						•			

- 1. Excavator refusal on bedrock at 4.5 feet below grade.
- 2. Groundwater not encountered in test pit.

TEST PIT PLAN				<u>L</u>	<u>EGEND</u>			
	BOULDER	COUNT	PROP	ORTIONS	ABBREVIATIONS	EXCA	VATION EF	FORT
61			ι	SED	F - Fine			
	Size Range	Letter			M - Medium	E - Easy		
	Classification	Designation	TRACE (TR)	0-10%	C - Coarse	M - Moderate		
2'			LITTLE (LI)	10-20%	F/M - Fine to Medium	D - Difficult		
	6" - 18"	Α	SOME (SO)	20-35%	F/C - Fine to Coarse			
Т Ф Т	18" - 36"	В	AND	35-50%	V - Very	GF	ROUNDWATI	ER .
North	36" and Larger	C			GR - Gray	Elapsed Time		
Depth = 4.5 ft.					BN - Brown	to Reading	NE	G.W.L.
Volume = 2 cu.yd.					YEL - Yellow	(hours)	¥	

				Ī	EST	PIT FIELI	LOG			
GZA (i eoEn	viror	mental, Inc.			<u>PROJECT</u>		Tes	t Pit No.	CSTP-10
Engine	ers ar	d Sc	ientists		BN	E Wind Turbine Pr	roject		File No.	44818.02
_						Colebrook, CT			Date	7/20/2011
					EXC	AVATION EQUIP	PMENT			
GZA E	ngine	er	T. Bjartmarz	z Contractor		HTS Construction		Ground H	Elevation	1442'±
Weath			80s Sunny	Operator		Bruce Remillard		Time Sta	rted	900
			-	Make	Volvo	Model	EC35	Time Cor	npleted	915
				Capacity	0.25	cu.yd. Reach	15 ft.		•	
			Г *	1 1					T 5 11 :	
				COT D	EC CD ED		, m	Boulder		
L	Depth			SOIL D		Excav.	Count	Remark		
					Effort	Qty. Class.	No.			
			1 \ 1				AATTER, little fine to		1, 55	
	1'			se Gravel, trace Silt				M	4A, 3B	
				vn, fine to coarse SA	AND and	fine to coarse GRA	AVEL, little Roots,			
	2'		little	Silt (Subsoil)	D	5A, 1B				
	3'		3'					D	4A	
			1 1 1	, fine to coarse SAN	ID and fi	ne to coarse GRAV	ÆL, little Silt			
	4'			cial Till)				D	4A	1
			Excar	vator Refusal at 3.5	t					
	5'									
			l i							[
	6'									
	7'									!
							•			
	8'									
	9'								<u> </u>	
	10'									
	11'								<u> </u>	ļ
	12'									
	13'									
	14'		<u> </u>							

- 1. Excavator refusal on bedrock at about 3.5 feet below grade.
- 2. Groundwater not encountered in test pit.

TEST PIT PLAN				<u>I</u>	EGEND			
	BOULDER	COUNT	PROPO	ORTIONS	ABBREVIATIONS	EXCA'	VATION EF	FORT
11'			U	SED	F - Fine			
7////	Size Range	Letter			M - Medium	E - Easy		
	Classification	Designation	TRACE (TR)	0-10%	C - Coarse	M - Moderate		
3			LITTLE (LI)	10-20%	F/M - Fine to Medium	D - Difficult		
	6" - 18"	Α	SOME (SO)	20-35%	F/C - Fine to Coarse			
` < ○	18" - 36"	В	AND	35-50%	V - Very	GR	OUNDWAT:	ER
North	36" and Larger	C			GR - Gray	Elapsed Time		
epth = 3.5 ft.					BN - Brown	to Reading	NE	G.W.L.
olume ≖ 4 cu.yd.	1				YEL - Yellow	(hours)	\succeq	

				TEST PIT FIELD LOG			
			mental, Inc.	PROJECT	1	t Pit No.	CSTP-10A
Engin	eers ar	nd Sc	ientists	BNE Wind Turbine Project		File No.	44818.02
				Colebrook, CT		Date	7/20/2011
				EXCAVATION EQUIPMENT			
I	Engine	eer	T. Bjartmarz	Contractor HTS Construction	Ground E		1435'±
Weath	ner		80s Sunny	Operator Bruce Remillard	Time Star		950
				Make Volvo Model EC35 Capacity 0.25 cu.yd. Reach 15 ft.	Time Cor	npleted	1001
					Boulder		
	Depth			Excav.	Count	Remark	
				Effort	Qty. Class.		
			Q.5' Dark brown,				
	1'		I 🔪 - I	el, trace Silt (Topsoil)	М	5A	
				to coarse SAND and fine to coarse GRAVEL, little Roots,			
	2'		little Silt (Su	ibsoil)	M	4A	
				coarse SAND and fine to coarse GRAVEL, some Silt	*****		
	31		3' (Glacial Till))	D	4A	1, 2
			Excavator R	efusal at 3'			
	4'						
	5'						
	6'						
	7'						
				·			
	81						
	9'						
	10'						
	11'						
	102						
	12'				<u> </u>		
	13'						[
	13			<u> </u>	ļ		
	14'						
	14						

- Excavator refusal on bedrock at 3 feet below grade.
 Groundwater not encountered in test pit.

TEST PIT PLAN				L	<u>EGEND</u>			
	BOULDER	COUNT	PROP	ORTIONS	ABBREVIATIONS	EXCA	VATION EFI	FORT
7'			U	SED	F - Fine			
	Size Range	Letter			M - Medium	E - Easy		
	Classification	Designation	TRACE (TR)	0-10%	C - Coarse	M - Moderate		
3'			LITTLE (LI)	10-20%	F/M - Fine to Medium	D - Difficult		
	6" - 18"	Α	SOME (SO)	20-35%	F/C - Fine to Coarse			
` <○	18" - 36"	В	AND	35-50%	V - Very	GF	ROUNDWATE	ER .
North	36" and Larger	С	ŀ		GR - Gray	Elapsed Time		
Depth = 3 ft.					BN - Brown	to Reading	NE	G.W.L.
Volume = 2 cu.yd.					YEL - Yellow	(hours)	¥	

				TEST	PIT F	IELD	LOG			
GZA (GeoEn	viror	mental, Inc.		PRO	JECT		Tes	t Pit No.	CSTP-10B
Engine	eers an	id Sc	entists	BNE	Wind Ti	urbine Pro	iect		File No.	44818.02
					Colebr	ook, CT			Date	7/20/2011
				EXCA	VATIO	N EQUIPN	ÆNT			
GZA I	Engine	er	T. Bjartmarz Con	ntractor H	TS Cons	struction		Ground E	levation	1444'±
Weath					ruce Rer	nillard		Time Star	ted	950
			Mal			Model	EC35	Time Cor	npleted	1001
				pacity 0.25	cu.yd.	Reach	15 ft.		•	
							,		Boulder	
1	Depth			SOIL DESCRIPT	ION			Excav.	Count	Remark
,	Depm			SOIL DESCRIET.	IOIV			Effort	Qty. Class.	No.
			0.5' Dark brown, fine	to coarse SAND :	and ORC	ANIC MA	ATTER, little fine to	Edilor	Qty, Class.	110.
	1'		coarse Gravel, tra		uno Orce	<i>I</i>	11 1 DR, Inde time to	D	10Å, 1B	
			Brown, fine to co		ne to co	arse GRA	/EL. little Roots.		10.1, 12	
	2'		2' little Silt (Subsoil		ine to co.	urbe ordi	. DE, mare record,	D	10A, 1B	•
	~		Gray, fine to coar		e to coar	se GRAVI	EL. some Silt		1012, 12	1
	31		(Glacial Till)	DO DILL ID MAG XXX	0 00 000		, 50	D	3A	1
	-		(Citabilat Tim)					_		
	4'							D	4A	
	5'		5'					D	3A	2
			Excavator Refusa	al at 5'		•				
	6'									
	7'									
	81									
	91								<u> </u>	
	1.01							1		
	10'									
	11'									
	11								 	
	12'									
	12						,		†	
	13'								1	
	14'									

- Mottled soil observed at approximately 2.5 feet below grade. Groundwater not encountered.
 Excavator refusal on bedrock at 5 feet below grade.

Γ	TEST PIT PLAN			<u>LEGEND</u>						
		BOULDER	COUNT	PROP	ORTIONS	ABBREVIATIONS	EXCAV	ATION EFFOR	Г	
	11'			υ	SED	F - Fine			l	
Γ	7////	Size Range	Letter			M - Medium	E - Easy		ŀ	
ı		Classification	Designation	TRACE (TR)	0-10%	C - Coarse	M - Moderate			
	3			LITTLE (LI)	10-20%	F/M - Fine to Medium	D - Difficult			
Γ		6" - 18"	Α	SOME (SO)	20-35%	F/C - Fine to Coarse				
ı	` <⊖ -	18" - 36"	В	AND	35-50%	V - Very	GRO	OUNDWATER		
ı	North	36" and Larger	С			GR - Gray	Elapsed Time			
I	Depth ≠ 5 ft.					BN - Brown	to Reading	NE/ G	.W.L.	
Ĭ	/olume = 5 cu.yd.					YEL - Yellow	(hours)	Ž		

			1	EST	PIT FIELE	LOG			
GZA GeoEnv	ironmer	ital, Inc.			<u>PROJECT</u>		Tes	t Pit No.	CSTP-10C
Engineers and	l Scienti	sts		BN	IE Wind Turbine Pr	oject		File No.	44818.02
					Colebrook, CT		,	Date	7/20/2011
				EXC	CAVATION EQUIP	MENT			
GZA Enginee	r TF	Bjartmarz	Contractor		HTS Construction		Ground E	levation	1401'±
Weather		Sunny	Operator		Bruce Remillard		Time Star		1011
, cathor	005	Sumi	Make	Volvo	Model	EC35	Time Cor		1015
			Capacity	0.25	cu.yd. Reach	15 ft.		приска	1015
	*		Capacity	0.23	cu.yu. Reach	13 11.			
								Boulder	
Depth			SOIL D	ESCRIP	TION		Excav.	Count	Remark
						Effort	Qty. Class.	No.	
		Dark brown.	fine to coar	se SAND	and ORGANIC M	IATTER, little fine to		`	
1'		coarse Grave				-	D	15A, 10B	
		course Grave	, trace 5,,,	(10p001)	,			1311, 102	
2'	2'	•					D	20A, 4B	
2	<u> </u>	Duouve fino	to 000m20 C A	ATD and	fine to coarse GRA	VEL same Cilt	р р	20A, 4D	
21				and and	Time to coarse GRA	VEL, Some Sin,		0.4.2D	
3'		little Roots (Subsoil)				D	8A, 3B	
							_		
4'	4'						D	7A, 3B	Ļ
				√D and fi	ine to coarse GRAV	EL, some Silt			
5'		(Glacial Till))				D	5A	
 6'	6'						D	3A	1, 2
		Excavator Re	efusal at 6'						
7'									
Í								 	
8'									
0								 	
9'									
9								-	
10.									
10 [†]								1	
].	
11'									
12 ¹									
13'									
14 [†]									
		•							

- 1. Excavator refusal on bedrock at 6 feet below grade.
- 2. Groundwater not encountered in test pit.

ľ	TEST PIT PLAN				<u>L</u>	EGEND	<u>.</u>		
		BOULDER	COUNT	PROP	ORTIONS	ABBREVIATIONS	EXCA	VATION EFF	FORT
	7'			ι	ISED	F - Fine			
Γ		Size Range	Letter			M - Medium	E - Easy		
		Classification	Designation	TRACE (TR)	0-10%	C - Coarse	M - Moderate		
	3			LITTLE (LI)	10-20%	F/M - Fine to Medium	D - Difficult		J
Γ		6" - 18"	A	SOME (SO)	20-35%	F/C - Fine to Coarse			
	· <0	18" - 36"	В	AND	35-50%	V - Very	GR	OUNDWATE	ER
	North	36" and Larger	С			GR - Gray	Elapsed Time		l
]	Depth = 6 ft.					BN - Brown	to Reading	NE	G.W.L.
-	Volume = 4 cu.yd.					YEL - Yellow	(hours)	_ _	

					EST	PIT I	IELD	LOC				
GZA (GeoEr	viror	mental, Inc.				<u> ЭЈЕСТ</u>			1	st Pit No.	CSTP-10D
Engine	eers at	nd Sc	ientists		BN		urbine Pro	oject			File No.	44818.02
							ook, CT				Date	7/20/2011
							N EQUIPI	MENT				
GZA I	-	eer	T. Bjartmarz			HTS Con				Ground E		1448'±
Weath	er		80s Sunny	Operator		Bruce Re				Time Sta		1035
				Make	Volvo		Model	EC35		Time Co	mpleted	1052
				Capacity	0.25	cu.yd.	Reach	15	fi.			
			1	<u> </u>							Boulder	I
ן	Depth			SOILE	DESCRIP	TION				Excav.	Count	Remark
	o op ui		1							Effort	Qty. Class.	1
	0.5' Dark brown, fine to coarse SAND and ORGANIC MATTER, little fine to									Later	Q 4 7 . G 2	110
	1'			e Gravel, trace Silt			Q1 21 (1 C 1 / 2			М	3A, 1B	
	-			n, fine to coarse SA			arse GRA	VEL, little	Roots.		,	
	2'		I I	Silt (Subsoil)				,,		M	3A	
	_			()								
	31		3'							M		1
				fine to coarse SAN	VD and fi	ne to coar	se GRAV	EL, some	Silt			_
	4'		1 1 7	ial Till)				,		М		
	5'									l D	2A	
	6'		6'							D	3A	2
				vator Refusal at 6'								
	7'											
	8'										}	
	9'											
	10'											
	11'											
~	12'											
	13'											
	14'											

- 1. Mottled soil observed at approximately 3.5 feet below grade. Groundwater not encountered.
- 2. Excavator refusal on bedrock at 6 feet below grade.

<u>T</u>	EST PIT PL	AN				<u>LEGEND</u>					
			BOULDER	COUNT	PROP	ORTIONS	ABBREVIATIONS	EXCA	VATION EF	FORT	
	7	71			1	USED	F - Fine				
		1	Size Range	Letter			M - Medium	E - Easy			
		7	Classification	Designation	TRACE (TR)	0-10%	C - Coarse	M - Moderate			
		3'			LITTLE (LI)	10-20%	F/M - Fine to Medium	D - Difficult			
	4		6" - 18"	A	SOME (SO)	20-35%	F/C - Fine to Coarse				
	\mathcal{Q}		18" - 36"	В	AND	35-50%	V - Very	GF	ROUNDWAT	ER	
	North		36" and Larger	С			GR - Gray	Elapsed Time			
Depth =	- 6	ft.					BN - Brown	to Reading	NE	G.W.L.	
Volume	= 4	cu.yd.					YEL - Yellow	(hours)	¥		

					EST	PIT I	TELD	LOG				
GZA (GeoEn	viror	mental, Inc.			PRC	JECT			Tes	t Pit No.	CSTP-10E
Engin	eers ar	d Sc	ientists		BN	E Wind T	urbine Pro	ject			File No.	44818.02
						Colebr	ook, CT				Date	7/20/2011
					EXC	AVATIO	N EQUIPI	ÆNT				
GZA I	Engine	er	T. Bjartmarz	Contractor		HTS Con				Ground E	levation	1446'±
Weath			80s Sunny	Operator		Bruce Rea				Time Star		1055
.,,				Make	Volvo		Model	EC35		Time Cor		1107
				Capacity	0.25	cu.yd.	Reach	15	ft.	11111	p	
				Capacity		ou.yu.	X Cuch	15	11.			,
											Boulder	
]	Depth			SOILE	SOIL DESCRIPTION					Excav. Effort	Count	Remark
1											Qty. Class.	No.
			Dark brown,	fine to coa	rse SAND	and OR	GANIC MA	ATTER, little fü	ne to			
	1'		1' coarse Grave	el, trace Silt	(Topsoil))				E	2A, 1B	1
			Brown, fine	to coarse Sa	AND and	fine to co	arse GRA	VEL, little Root	s,		<u> </u>	
	2'		little Silt (Su					·		M	1A	
				,						***************************************		
	31		31							D		
	,		3.5' Gray, fine to	Coarse SAI	VD and fi	ne to coar	se GRAVI	I little Silt				
	4'		(Glacial Till		VD and n	iic w coai	SC CICA VI	se, nuc sm		D		1, 2
	4		Excavator R									1, 2
	£*1		Excavaior R	erusar at 5)							
	5'											
	6'										ļ	
	7'.										_	
	8'											
											1	
	9'											
	10'											
	11'											
	12'											
											† · · · · · · · · · · · · · · · · · · ·	
	131											
	1.5	•										
	14'											
<u> </u>	14									l	J	I .

- Excavator refusal on bedrock at 3.5 feet below grade.
 Groundwater not encountered in test pit.

TEST PIT PLAN				I	EGEND			
	BOULDER	COUNT	PROP	ORTIONS	ABBREVIATIONS	EXCA	VATION EF	FORT
7'			v	SED	F - Fine			
	Size Range	Letter			M - Medium	E - Easy		
	Classification	Designation	TRACE (TR)	0-10%	C - Coarse	M - Moderate		
	r L		LITTLE (LI)	10-20%	F/M - Fine to Medium	D - Difficult		
	6" - 18"	Α	SOME (SO)	20-35%	F/C - Fine to Coarse			
· <0 ·	18" - 36"	B	AND	35-50%	V - Very	GF	ROUNDWAT	ER
North	36" and Larger	С			GR - Gray	Elapsed Time		
Depth = 3.5 f	t.				BN - Brown	to Reading	NE	G.W.L.
Volume = 2 cu.y	rd.				YEL - Yellow	(hours)	₹	

					TEST PIT FIELD LOG			
GZA	GeoEr	wiror	nmenta	l, Inc.	<u>PROJECT</u>	Tes	st Pit No.	CSTP-11
Engin	eers ar	id Sc	ientists	3	BNE Wind Turbine Project		File No.	44818.02
					Colebrook, CT		Date	7/20/2011
					EXCAVATION EQUIPMENT			
GZA.	Engine	eer	T. Bja	artmarz	Contractor HTS Construction	Ground F	Elevation	1452'±
Weath	er		80s S	unny	Operator Bruce Remillard	Time Sta	rted	1300
					Make Volvo Model EC35	Time Co	mpleted	1310
					Capacity 0.25 cu.yd. Reach 15 fi	<u></u>		
			Υ				Boulder	
	D d.				CON DECORDATION	P	D 1-	
	Depth				SOIL DESCRIPTION	Excav.	Count	Remark
			ļ	TS 1.1	CAND LODGANIONATED PALC	Effort	Qty. Class.	No.
			ļ.,	1	fine to coarse SAND and ORGANIC MATTER, little fine to			
	1'		1'		el, trace Silt (Topsoil)	E	2A	
					to coarse SAND and fine to coarse GRAVEL, little Roots,		l	
	2'		2'	little Silt (Su		D	1A	
			2.51		coarse SAND and fine to coarse GRAVEL, some Silt (Glaci			
	3'		\	Till)		D		1
				Excavator Re	efusal at 2.5'			
	4'							
	5'							
	6'							
	7 ¹							
	81						<u> </u>	
~~~	9'							
				İ				
	10°							
	11'						l	
	12'							
1								
	13'							
							1	
	14'							
	<del></del>		***********	•		•	•	

- 1. Excavator refusal on bedrock at 2.5 feet below grade.
- 2. Groundwater not encountered in test pit.

TE	ST PIT PLA	<u>ln</u>			<u>LEGEND</u>					
1			BOULDER	COUNT	PROP	ORTIONS	ABBREVIATIONS	EXCA	VATION EF	FORT
	8'				υ	SED	F - Fine			
		1	Size Range	Letter			M - Medium	E - Easy		
1 7			Classification	Designation	TRACE (TR)	0-10%	C - Coarse	M - Moderate		
		31			LITTLE (LI)	10-20%	F/M - Fine to Medium	D - Difficult		
	_		6" - 18"	Α	SOME (SO)	20-35%	F/C - Fine to Coarse			
	$\rightarrow$		18" - 36"	В	AND	35-50%	V - Very	GR	ROUNDWAT	ER
	North		36" and Larger	С			GR - Gray	Elapsed Time		
Depth =	2.5	ft.					BN - Brown	to Reading	NE	G.W.L.
Volume =	= 2	cu.yd.					YEL - Yellow	(hours)	¥	

						<b>FEST</b>	PIT FIE	LD:	LOG			
GZA (	GeoEr	viror	nmenta	I, Inc.			PROJECT			Tes	st Pit No.	CSTP-12
Engin	eers ai	nd Sc	ientists	3		BN	VE Wind Turbine	Proje	ect		File No.	44818.02
-							Colebrook, C	CT			Date	7/20/2011
					1	EXC	CAVATION EQ		ENT			
GZA I	Engine	eer	T. Bia	artmarz	Contractor		HTS Constructi			Ground I	Elevation	1462'±
Weath	-		80s S		Operator		Bruce Remillaro			Time Sta		1112
					Make	Volvo	Mod		EC35	Time Co		1125
					Capacity	0.25	cu.yd. Reac		15 ft.		-г	
					1					1		
										Excav.	Boulder	
Depth					SOIL I	SOIL DESCRIPTION					Count	Remark
								Effort	Qty. Class	No.		
			0.5'					C MAT	FTER, little fine to			
	1'		\		el, little Silt					Е	1A	
						AND and	fine to coarse G	RAVI	EL, little Roots,			
	2'			little Silt (S	ubsoil)					M	4A, 1B	
			2.5'									
	3'		3'			VD and fi	ine to coarse GR	AVEL	., some Silt	D	3A	1
			1	(Glacial Till								
u in	4'			Excavator R	Refusal at 3'							
	5'										<u> </u>	<u></u>
	6'											
	7'											
	8'											
				:								
	9'											
	10'											
	11'											
12'												
	13'											
	14'											

- Excavator refusal on bedrock at 3 feet below grade.
   Groundwater not encountered in test pit.

TEST PIT PLAN				LEG	<u>END</u>		
	BOULDER	COUNT	PROPO	RTIONS	ABBREVIATIONS	EXCAV	ATION EFFORT
6			US	ED	F - Fine		
	Size Range	Letter			M - Medium	E - Easy	
1 /////	Classification	Designation	TRACE (TR)	0-10%	C - Coarse	M - Moderate	
3'			LITTLE (LI)	10-20%	F/M - Fine to Medium	D - Difficult	
	6" - 18"	A	SOME (SO)	20-35%	F/C - Fine to Coarse		
· <del>←○</del> ·	18" - 36"	В	AND	35-50%	V - Very	GRO	DUNDWATER
North	36" and Larger	С			GR - Gray	Elapsed Time	
Depth ≈ 3 ft.					BN - Brown	to Reading	NE G.W.L.
Volume = 2 cu.yd.					YEL - Yellow	(hours)	<del>_</del>

GZA GeoEnvironmental, Inc.  PROJECT  Test Pit No.	CSTP-13
Engineers and Scientists BNE Wind Turbine Project File No.	44818.02
Colebrook, CT Date	7/20/2011
EXCAVATION EQUIPMENT	
GZA Engineer T. Bjartmarz Contractor HTS Construction Ground Elevation	1467'±
Weather 80s Sunny Operator Bruce Remillard Time Started	830
Make Volvo Model EC35 Time Completed	853
Capacity 0.25 cu.yd. Reach 15 ft.	
Boulder	
Depth SOIL DESCRIPTION Excav. Count	Remark
Effort Qty. Class.	No.
0.5' Dark brown, fine to coarse SAND and ORGANIC MATTER, little fine to	
1' coarse Gravel, trace Silt (Topsoil) M 4A, 1B	1
Brown, fine to coarse SAND and fine to coarse GRAVEL, little Roots,	
2' 2' little Silt (Subsoil) M 6A	
Gray, fine to coarse SAND and fine to coarse GRAVEL, some Silt	
3' (Glacial Till) D 3A	
4' D 5A	
5' D 4A	
6' <u>6'</u> D 6A	2, 3
Excavator Refusal at 6'	
7'	
8'	
<b></b> 9'	
10'	
11'	
12'	
13'	
14'	

- 1. Test pit relocated approximately 21 feet to the west of the originally planned test pit location.
- 2. Excavator refusal on bedrock at 6 feet below grade.
- 3. Groundwater not encountered in test pit.

TE	<u>ST PIT PLA</u>	<u>N</u>				<u>L</u>	EGEND			
			BOULDER	COUNT	PROPO	ORTIONS	ABBREVIATIONS	EXCA	VATION EF	FORT
	11'				U	SED	F - Fine	1		
7	7////		Size Range	Letter			M - Medium	E - Easy		
			Classification	Designation	TRACE (TR)	0-10%	C - Coarse	M - Moderate		
		3'			LITTLE (LI)	10-20%	F/M - Fine to Medium	D - Difficult		
			6" - 18"	Α	SOME (SO)	20-35%	F/C - Fine to Coarse			
•	←⊖-		18" - 36"	В	AND	35-50%	V - Very	GR	OUNDWAT	ER
	North		36" and Larger	С			GR - Gray	Elapsed Time		
Depth =	6	ft.					BN - Brown	to Reading	NE	G.W.L.
Volume ≈	= 6	cu.yd.					YEL - Yellow	(hours)	$\succeq$	

		Environmental, Inc. TEST PIT FIELD LOG PROJECT									
GZA	GeoEn	viror	menta	l, Inc.			<u>PROÆCT</u>		Tes	t Pit No.	CSTP-14
Engin	eers ar	id Sc	ientists	3		BN	E Wind Turbine Pr	oject		File No.	44818.02
							Colebrook, CT			Date	7/20/2011
						EXC	AVATION EQUIP	MENT			
GZA	Engine	eer	T. Bja	artmarz	Contractor		HTS Construction		Ground I	levation	1490'±
Weath			80s S	unny	Operator		Bruce Remillard		Time Sta	rted	
					Make	Volvo	Model	EC35	Time Co	npleted	
					Capacity	0.25	cu.yd. Reach	15 ft.	]		
									<del>                                     </del>	Boulder	I'''''
	D 45				COII D	DCCDIII	TION		Excav.	Remark	
	Depth				SOLLD	ESCRIP	HON		1	Count	No.
			0.5'	ID1- 1	£	CANT	A STORES	IATTER, little fine to	Effort	Qty. Class.	NO.
	11		0.3	1			· ·	IATIEK, IIIIIE IIIIE IO	· E	1A	l
	1'		`	coarse Grave			fine to coarse GRA	VEL Litta Danta	E	IA.	
	2'			little Silt (Su		MIN AUG	Time to coarse GRA	VEL, mue Roots,	D	1 A 1D	
	2		2.5'			ID and E	ne to coarse GRAV	TCI games Cilt	ш	1A, 1B	
	3'		K.3	(Glacial Till)		and II	ne to coarse GRA v	EL, some sin	D		1.2
	3			Excavator Re		,			D D		1, 2
	41			Excavator Re	etusai at 2.5						
	4'										
	<i>-</i> 1										1
	5'									<u> </u>	
	a										
	6'									<del> </del>	
	71										
	,	-								<u> </u>	
	8'						•				
	٥										
	9'										
	9									-	
	10'										
	10									<del>                                     </del>	
	11'										
	11									<del>                                     </del>	
	12'										
	14									<del> </del>	
	13'										ŀ
										<u> </u>	
	14'										1
DEM	ADVE			<u> </u>						.L	L

- 1. Excavator refusal on bedrock at 2.5 feet below grade.
- 2. Groundwater not encountered in test pit.

TEST PIT PLAN			<u>LEGEND</u>						
	BOULDER	COUNT	PROP	ORTIONS	ABBREVIATIONS	EXCAVATION EFFORT		FORT	
8'			U	SED	F - Fine				
7////	Size Range	Letter			M - Medium	E - Easy			
	Classification	Designation	TRACE (TR)	0-10%	C - Coarse	M - Moderate			
3			LITTLE (LI)	10-20%	F/M - Fine to Medium	D - Difficult			
<b>A</b>	6" - 18"	A	SOME (SO)	20-35%	F/C - Fine to Coarse				
1 0	18" - 36"	В	AND	35-50%	V - Very	GR	COUNDWAT	ER	
North	36" and Larger	С			GR - Gray	Elapsed Time			
Depth = $2.5$ ft.					BN - Brown	to Reading	NE	G.W.L.	
Volume = 2 cu.yd.					YEL - Yellow	(hours)	<del>\frac{1}{4}</del>		

					TEST PIT FIEL	D LOG			
GZA GeoEn	viron	menta	l, Inc.		<u>PROJECT</u>		Tes	t Pit No.	CSTP-15
Engineers an	d Sc	ientists	3		BNE Wind Turbine F	roject		File No.	44818.02
					Colebrook, CI	<del>=</del>		Date	7/20/2011
				:	EXCAVATION EQUI				
GZA Engine	er	T. Biz	artmarz	Contractor	7		Ground E	levation	1472'±
Weather		80s S		Operator	Bruce Remillard		Time Star		1328
				Make	Volvo Model	EC35	Time Cor		1332
				Capacity	0.25 cu.yd. Reach	15 ft.	11111		
		<del>,</del>	***	Cupucky					
								Boulder	
Depth				SOLD	DESCRIPTION		Excav.	Count	Remark
		l				Effort	Qty. Class.	Ňо.	
			Dark brown,	fine to coar	rse SAND and ORGANIC	MATTER, little fine to			
1'		1'	coarse Grave	el, trace Silt	(Topsoil)		D	3A	ŀ
			Brown, fine	to coarse SA	AND and fine to coarse GR	AVEL, some Silt,			
2'		2'	little Roots (	Subsoil)			D	4A, 1B	
			Gray, fine to	coarse SAN	ND and fine to coarse GRA	VEL, some Silt			
3'		31	(Glacial Till)			•	D	3A	1, 2
			Excavator Re						
4'									
5'									
6'									
7 [†]									
/									
8'			Ì						
								<u> </u>	
9'									
101			1						
10'									
11'									
			•						
12'			ŀ						
13'									
14'		<u> </u>	<u>L</u>						

- 1. Excavator refusal on bedrock at 3 feet below grade.
- 2. Groundwater not encountered at test pit.

TE	ST PIT PL	AN				<u>L</u>	EGEND			
			BOULDER	COUNT	PROP	ORTIONS	ABBREVIATIONS	EXCAVATION EFFORT		
	7	1			ι	SED	F - Fine			
		1	Size Range	Letter			M - Medium	E - Easy		
1 6		1	Classification	Designation	TRACE (TR)	0-10%	C - Coarse	M - Moderate		
		31			LITTLE (LI)	10-20%	F/M - Fine to Medium	D - Difficult		
			6" - 18"	Α	SOME (SO)	20-35%	F/C - Fine to Coarse			
	$\stackrel{\bigcirc}{\longrightarrow}$	-	18" - 36"	В	AND	35-50%	V - Very	GF GF	ROUNDWAT	ER
	North		36" and Larger	С			GR - Gray	Elapsed Time		
Depth =	3	ft.					BN - Brown	to Reading	NE	G.W.L.
Volume =	= 2	cu.yd.					YEL - Yellow	(hours)	Ť	

					İ	EST	LOG					
GZA	GeoEr	viron	menta	l, Inc.			PRO	<u>JECT</u>		Tes	t Pit No.	CSTP-16
	eers ar					BN	E Wind T	urbine Pro	ject		File No.	44818.02
							Colebi	ook, CT			Date	7/20/2011
						EXC		N EQUIPN	ÆNT			
GZA	Engine	eer	T. Bja	artmarz	Contractor		HTS Con	struction		Ground E	levation	1461'±
Weat	her		80s S	unny	Operator		Bruce Re	millard		Time Star	1342	
					Make	Volvo		Model	EC35	Time Cor	npleted	1350
					Capacity	0.25	cu.yd.	Reach	15 ft.	1	-	
											I D 17	
	D d										Boulder	D
	Depth SOIL DESCRIPTION									Excav.	Count	Remark
			<u> </u>	In 1.1	<u> </u>	CANID	100	2.4307/213.44	induction that C .	Effort	Qty. Class.	No.
	. 11		۱,,					JANIC MA	ATTER, little fine to		2 4 170	
	. 1'		1'	coarse Grave				ZTD AX	77'17 1'441 TO 4	D	3A, 1B	
	21					LIND and	ime to co	arse GRAV	/EL, little Roots,		24 17	
	2'		ا _{م جا}	little Silt (Su	ibsoil)					D	3A, 1B	<u> </u>
	21		2.5'	0 5 1		ID 1.C		CD 4370	Υ C*14	ь.	24 2D	
	31		2 =1	1 -		(D) and II	ne to coar	se GRAVE	EL, some Silt	D	3A, 2B	$\vdash$
	41		3.5'	(Glacial Till)			·					] , ,
	4'			Excavator R	erusai at 3.5					D		1, 2
	<i>E</i> 1										,	
	5'											
	<i>(</i> 1											
	6'									<u> </u>	<u> </u>	
	. <del></del> 1											
	7'											-
	OI.											
	8'										1	
	9'											
	9										<b>1</b>	,
	10'											
	10										-	-
	11'											
	11									-		
	12'									[		
	12									<u> </u>		
l	13'		1									
	13		1			_						
	14'		1							]		
	14			!						<u> </u>	<u> </u>	<u> </u>

- 1. Excavator refusal on bedrock at 3.5 feet below grade.
- 2. Groundwater not encountered at test pit.

TES	T PIT PLA	N				<u>11</u>	GEND			
			BOULDER	COUNT	PROP	ORTIONS	ABBREVIATIONS	EXCAVATION EFFORT		FORT
	7'	'			τ	JSED	F - Fine			
		1	Size Range	Letter			M - Medium	E - Easy		
			Classification	Designation	TRACE (TR)	0-10%	C - Coarse	M - Moderate		
		3'			LITTLE (LI)	10-20%	F/M - Fine to Medium	D - Difficult		
			6" - 18"	A	SOME (SO)	20-35%	F/C - Fine to Coarse			
-	<del></del>		18" - 36"	В	AND	35-50%	V - Very	GF	ROUNDWAT	ER
	North		36" and Larger	C			GR - Gray	Elapsed Time		
Depth =	3.5	ft.					BN - Brown	to Reading	NE	G.W.L.
Volume =	2	си.yd.					YEL - Yellow	(hours)	<u></u>	

					EST	PIT I	TELD	LO	$\mathbf{G}$			
GZA Geo	oEnvir	onmenta	ıl, Inc.			PRC	<u>JECT</u>			Tes	t Pit No.	CSTP-17
Engineer	s and S	cientists	S		BN		urbine Pro	ject			File No.	44818.02
							ook, CT				Date	7/21/2011
							N EQUIPN	MENT				
GZA Eng			artmarz	Contractor		HTS Con				Ground F		1474'±
Weather		90s S	unny	Operator		Bruce Re		TICO		Time Sta		
				Make	Volvo 0.25	. 1	Model	EC3:		Time Co	npleted	
				Capacity	0.23	cu.yd.	Reach		15 ft.			
											Boulder	
Dej	pth			SOIL I	DESCRIP'	TION				Excav.	Count	Remark
										Effort	Qty. Class	No.
1	1'	_	Exposed bed	łrock outero	p observe	ed at test p	it location					1
2	2'	-										
3	3'	-									<u> </u>	
4	4'	-		•							1	
,	<b>5</b> 1		-									
	5'	-									<u> </u>	
,	6'											1
`	O								;		<u> </u>	
	7'	.										
{	8 ¹	<b>-</b> .										
		ļ										
9	9'	-	ŀ								<u> </u>	
	Δ1											
1	.0'	-									ļ	
1	1'	-			•							
1	.2"	-										
1	.31	-	1									
_	41											
l	.4'	-									<u> </u>	<u> </u>

1. Test pit eliminated due to exposured possible bedrock.

TEST	PIT PLAN				<u>I</u>	<u>EGEND</u>			
		BOULDER	COUNT	PROP	ORTIONS	ABBREVIATIONS	EXCAVATION EFFOR		FORT
	1			บ	SED	F - Fine			
	7777	Size Range	Letter			M - Medium	E - Easy		
	////	Classification	Designation	TRACE (TR)	0-10%	C - Coarse	M - Moderate		
				LITTLE (LI)	10-20%	F/M - Fine to Medium	D - Difficult		
		6" - 18"	A.	SOME (SO)	20-35%	F/C - Fine to Coarse			
	0 .	18" - 36"	В	AND	35-50%	V - Very	GF	ROUNDWAT	ER
)	North	36" and Larger	C			GR - Gray	Elapsed Time		
Depth =	ft.					BN - Brown	to Reading	NE	G.W.L.
Volume =	си.уd.					YEL - Yellow	(hours)	Ϋ́	

				TEST PIT FIELD LOG										
GZA	GeoEn	viror	mental, Inc.			PRO	<u>)ЈЕСТ</u>			Tes	st Pit No.	CSTP-18		
Engin	eers ar	nd Sc	ientists		BNI	E Wind T	urbine Pre	ojeci	t		File No.	44818.02		
						Colebn	rook, CT				Date	7/21/2011		
					EXC	AVATIO	N EQUIP	ME	VT					
GZA.	Engine	er	T. Bjartmarz	Contractor	·	HTS Con	struction			Ground I	Elevation	1466'±		
Weath	ier		90s Sunny	Operator	I	Bruce Re	millard		·	Time Sta	rted	700		
				Make	Volvo		Model	E	EC35	Time Co	mpleted	705		
				Capacity	0.25	cu.yd.	Reach		15 ft	.]				
			<del></del>	<u> </u>						1	Boulder			
	D4l.			COT L	VECOD ID 3	PION				F	Count	D 1-		
	Depth SOIL DESCRIPTION									Excav.	1	Remark		
			0.5' Dark brown.	C	CAND	1 OD4	ጎ ልእነነሪጎ እ ብ	r a TT	EED 1541. C 4.	Effort	Qty. Class.	No.		
	11					ΓER, little fine to		2 4 170						
	1'		coarse Grave				CD A	ו ייוני.	_, little Roots,	E	3A, 1B			
	21				and and	nne to co	arse GKA	VEL	_, little Koots,		0.4 170			
nne	2'		little Silt (Su	idsoii)						E	2A, 1B			
	21		21							,,				
	3'		3'	G 43	TD 1.0		CD ATT		GU.	M	+			
	41		Gray, fine to		AD and fir	ne to coar	se GKAV	EL,	some Silt					
	4'		4' (Glacial Till							D	<del> </del>	1, 2		
	,,		Excavator R	etusal at 4°										
	5'										1			
	<b>C</b> I											*		
	6'										-			
	7.										ļ			
	01													
	8'										<b>.</b>			
	OI.													
	9'													
	101													
	10'										-			
	11'													
	10:													
	12'													
	101													
	13'										ļ			
	1.41													
	14'											<u> </u>		

- 1. Excavator refusal on bedrock at 4 feet below grade.
- 2. Groundwater not encountered in test pit.

TI	EST PIT PLA	AN			<u>LEGEND</u>					
1			BOULDER	COUNT	PROPORTIONS		ABBREVIATIONS	EXCAVATION EFFORT		
	6'	1			ι	JSED	F - Fine			
		1	Size Range	Letter			M - Medium	E - Easy		
1 (		<b>7</b> 1	Classification	Designation	TRACE (TR)	0-10%	C - Coarse	M - Moderate		
		31			LITTLE (LI)	10-20%	F/M - Fine to Medium	D - Difficult		
			6" - 18"	Α	SOME (SO)	20-35%	F/C - Fine to Coarse			
	$\longrightarrow$	-	18" - 36"	В	AND	35-50%	V - Very	GROUNDW.	ATER	
	North		36" and Larger	С			GR - Gray	Elapsed Time		
Depth =	4	ft.					BN - Brown	to Reading NE	G.W.L.	
Volume	= 2	cu.yd.					YEL - Yellow	(hours) $\frac{}{2}$		

				TEST PIT FIELD LOG				
GZA	GeoEn	viror	mental, Inc.	PROJECT	Tes	t Pit No.	CSTP-19	
			ientists	BNE Wind Turbine Project		File No.	44818.02	
				Colebrook, CT		Date	7/25/2011	
				EXCAVATION EQUIPMENT				
GZA I	Engine	er	T. Bjartmarz	Contractor HTS Construction	Ground E	levation	1468'±	
Weath			90s Sunny	Operator Bruce Remillard		Time Started		
17 Cuii	101		Job Dainiy	Make Volvo Model EC35	Time Cor		725 730	
				Capacity 0.25 cu.yd. Reach 15 ft.	Time Cor	приской	150	
				Capacity 0.25 cd.yd. Reach 15 it.				
						Boulder		
]	Depth			SOIL DESCRIPTION	Excav.	Count	Remark	
					Effort	Qty. Class.	No.	
			0.5' Dark brown	, fine to coarse SAND and ORGANIC MATTER, little fine to				
	1'		coarse Grav	rel, trace Silt (Topsoil)	E	1A		
				to coarse SAND and fine to coarse GRAVEL, little Roots,				
	2'		2' little Silt (S		Е	2B		
	_			o coarse SAND and fine to coarse GRAVEL, some Silt				
	3'		(Glacial Til		D		1	
	3			Refusal at 2.5'		<del> </del>	<del></del>	
	4'		Excavator	Citisal at 2.5			1	
	4							
	5'			-				
	Э.							
	-							
	6'		<b>[</b>					
	7'		i l			ļ		
	8'		}					
	9'							
	10'							
	11'							
	12'							
				·				
	13'						1	
	~~					<b>†</b>		
	14'							
REM			<u> </u>			ı	L	

- 1. Excavator refusal on bedrock at 2.5 feet below grade.
- 2. Groundwater not encountered in test pit.

<u>T</u>	<u>EST PIT PLAI</u>	N			LEGEND					
			BOULDER COUNT		PROP	ORTIONS	ABBREVIATIONS	EXCA	VATION EFI	FORT
	6'				τ	USED	F - Fine			
	77777		Size Range	Letter			M - Medium	E - Easy		ŀ
			Classification	Designation	TRACE (TR)	0-10%	C - Coarse	M - Moderate		
		3'			LITTLE (LI)	10-20%	F/M - Fine to Medium	D - Difficult		
			6" - 18"	Α	SOME (SO)	20-35%	F/C - Fine to Coarse			
	<del>←</del>		18" - 36"	В	AND	35-50%	V - Very	GROUNDWATER		ER
	North		36" and Larger	С			GR - Gray	Elapsed Time		
Depth =	2.5	fl.					BN - Brown	to Reading	NE	G.W.L.
Volume	= 1.5	cu.yd.					YEL - Yellow	(hours)	Ŧ	

						<b>TEST</b>	PIT FIEI	ÐΙ	.OG				
GZA	GeoEr	viror	nmenta	l, Inc.			PROJECT			Tes	st Pit No.	CSTP-20	
Engin	eers ar	nd Sc	ientists	3		$B\Lambda$	VE Wind Turbine	Projec	ct		File No.	44818.02	
							Colebrook, C	T			Date	7/21/2011	
						EXC	CAVATION EQU		ENT				
GZA	Engine	eer	T. Bia	ertmarz	Contractor		HTS Construction			Ground E	Elevation	1456'±	
Weatl	_		90s S		Operator		Bruce Remillard			Time Star	901		
I T Cata			3000	<u> </u>	Make	Volvo	Mode		EC35	4	Time Completed		
					Capacity	0.25	cu.yd. Reach	-	15 ft.		присос	905	
					Capacity	0.23	Ca.ya. Icaci	<u> </u>	13 11.				
											Boulder		
	Depth				SOIL I	DESCRIP	TION			Excav.	Count	Remark	
										Effort	Qty. Class	No.	
			0.5'	Dark brown,	fine to coa	rse SANI	and ORGANIC	MAT	TER, little fine to				
	I'			coarse Grave	el, trace Silt	(Topsoil	)			Ė	1A		
			`				fine to coarse Gl	RAVE	L. little Roots.				
	2†		2'	little Silt (Su					,	D			
İ	_		2.5'			VD and fi	ine to coarse GRA	AVEL.	little Silt				
	31			(Glacial Till		unu n	me to combe of	. ,	, 11010 0110	D		1, 2	
	,		`	Excavator R		<u>.                                    </u>				<del></del>	<del> </del>	1, 2	
	4'			L'ACAVAIOI K	ciusai ai 2	,							
	4												
1	5' ·												
	Э.												
	<i>(</i> 1												
	6'										<u> </u>		
	7'												
	8'												
	9'												
	10'												
	11'												
	12'												
	134												
	=												
	14'												
<del></del>			i	<u> </u>				····	<del></del>	1	1	1	

- Excavator refusal on bedrock at 2.5 feet below grade.
   Groundwater not encountered in test pit.

TEST PIT PLAN	TEST PIT PLAN			<u>LEGEND</u>						
	BOULDER (	COUNT	PROPO	ORTIONS	ABBREVIATIONS	EXCA	VATION EFI	FORT		
7'			U	SED	F - Fine					
	Size Range	Letter			M - Medium	E - Easy				
1 <i>1////</i> 2	Classification	Designation	TRACE (TR)	0-10%	C - Coarse	M - Moderate				
3'			LITTLE (LI)	10-20%	F/M - Fine to Medium	D - Difficult				
	6" - 18"	A	SOME (SO)	20-35%	F/C - Fine to Coarse					
	18" - 36"	В	AND	35-50%	V - Very	GF	ROUNDWATI	ER		
North	36" and Larger	С			GR - Gray	Elapsed Time				
Depth = $2.5$ ft.					BN - Brown	to Reading	NE	G.W.L.		
Volume = 1.5 cu.yd.					YEL - Yellow	(hours)	₹			

						EST	PIT F	TELD	LOG				
GZA (	GeoEn	viror	ımenta	l, Inc.			PRO	<u>JECT</u>			Tes	t Pit No.	CSTP-21
Engin	eers ar	nd Sc	ientists	3		BN	E Wind Ti	arbine Pro	ject		*	File No.	44818.02
					ļ		Colebra	ook, CT				Date	7/21/2011
						EXC	AVATION	N EQUIPN	ÆNT				
GZA I	Engine	er	T. Bia	artmarz	Contractor		HTS Cons				Ground E	levation	1444'±
Weath	_		90s S		Operator		Bruce Ren		<del> </del>		Time Sta		916
	. • -				Make	Volvo		Model	EC35		Time Co		927
					Capacity	0.25	cu.yd.	Reach	15	ft.		прискец	
					Capacity		cu.yu.	Redon		10.			
												Boulder	
]	Depth				SOIL DESCRIPTION					Excav.	Count	Remark	
											Effort	Qty. Class.	No.
			0.5	Dark brown,	fine to coar	se SAND	and ORG	ANIC MA	ATTER, little	fine to			
	1'			coarse Grave	l, trace Silt	(Topsoil)	)		•		Е	3A, 1B	
				Brown, fine	to coarse SA	AND and	fine to coa	arse GRAV	VEL, little Ro	ots,			
	2'		2'	little Silt (Su					ŕ	•	M	2A	
				Gray, fine to		ID and fi	ne to coars	e GRAVE	EL, some Silt				
	3'			(Glacial Till)					, , , , ,		M		1
ļ			İ	(0100101 1111)									-
i	4'										D		
	7										<del></del>	<u> </u>	
1	5'										D		
	3										- D		
1	6'		6'								D		ا م
	O		0	E	-C1 -+ Cl						<u> </u>	<del> </del>	2
	m.			Excavator Re	erusai at 6								
	7'												
	8'												
													l
wee	9'			*									
	10'												
												1	ŀ
	11'												
	12'												<u>                                       </u>
	13'												
	14'												
DEM	ADVC								·····		1	1	-

- 1. Mottled soil observed at approximately 3 feet below grade. Groundwater not encountered.
- 2. Excavator refusal on bedrock at 6 feet below grade.

TI	EST PIT PLA	N.				<u>LEGEND</u>					
			BOULDER	COUNT	PROP	ORTIONS	ABBREVIATIONS	EXCA'	VATION EFF	ORT	
	9'				1	JSED	F - Fine				
1			Size Range	Letter			M - Medium	E - Easy			
1 (			Classification	Designation	TRACE (TR)	0-10%	C - Coarse	M - Moderate			
[		31			LITTLE (LI)	10-20%	F/M - Fine to Medium	D - Difficult			
			6" - 18"	A	SOME (SO)	20-35%	F/C - Fine to Coarse				
-	Ø	•	18" - 36"	В	AND	35-50%	V - Very	GR	OUNDWATE	ER	
i i	North		36" and Larger	С			GR - Gray	Elapsed Time			
Depth =	. 6	ft.					BN - Brown	to Reading	NE	G.W.L.	
Volume	= 5	cu.yd.					YEL - Yellow	(hours)	<u></u>		

		TEST PIT FIELD LOG			
GZA GeoEnviro Engineers and So	*	<u>PROJECT</u> BNE Wind Turbine Project Colebrook, CT	Tes	t Pit No. File No. Date	CSTP-22 44818.0 7/21/201
GZA Engineer Weather	T. Bjartmarz 90s Sunny	EXCAVATION EQUIPMENT	Ground F Time Sta Time Coi	rted mpleted	1445' 84 84
Depth		SOIL DESCRIPTION	Excav. Effort	Boulder Count Qty. Class.	Remark No.
1'	coarse Grav	, fine to coarse SAND and ORGANIC MATTER, little fine to el, trace Silt (Topsoil)	Е	2A	
2'	2' little Silt (S		M		****
<del></del> 3'	3' (Glacial Till Excavator R		D		1, 2
<b></b> 4'	Excavator	erusai at 3			
5' <b></b>					
6'		·			
<del></del> 7'			····		
8 ¹			<u> </u>		
9'					
10'		,			
11'					
12'					
13'					
14'					

- 1. Excavator refusal on bedrock at 3 feet below grade.
- 2. Groundwater not encountered in test pit.

TEST PIT PLAN				Ţ	EGEND			
	BOULDER	COUNT	PROP	ORTIONS	ABBREVIATIONS	EXCA	VATION EF	FORT
7'	]		U	SED	F - Fine			
	Size Range	Letter			M - Medium	E - Easy		
	Classification	Designation	TRACE (TR)	0-10%	C - Coarse	M - Moderate		
3			LITTLE (L1)	10-20%	F/M - Fine to Medium	D - Difficult		
	6" - 18"	A	SOME (SO)	20-35%	F/C - Fine to Coarse			
<del>- ()&gt;</del>	18" - 36"	В	AND	35-50%	V - Very	GF	ROUNDWAT	ER
North	36" and Larger	С			GR - Gray	Elapsed Time		
Depth = $3$ ft.					BN - Brown	to Reading	NE	G.W.L.
Volume = 2 cu.yd.					YEL - Yellow	(hours)	$\succeq$	

						TEST PIT FIE	LD LOG			
GZA (	GeoEn	viron	menta	ıl, Inc.		PROJECT		Tes	st Pit No.	CSTP-23
Engin						BNE Wind Turbine	Project		File No.	44818.02
						Colebrook, C			Date	7/21/2011
						EXCAVATION EQ				
GZA I	Engine	er	T Rig	artmarz	Contractor			Ground E	Elevation	1454'±
Weath			90s S		Operator	Bruce Remillard		Time Star		725
Weam	ICI		208 3	unity	Make	Volvo Mod		Time Con		730
								_	inpreteu	750
					Capacity	0.25 cu.yd. Reac	113 11	<u>-</u>		
									Boulder	
]	Depth				SOIL I	DESCRIPTION	Excav.	Count	Remark	
	1						Effort	Qty. Class	. No.	
			0.5' Dark brown, fine to coarse SAND and ORGANIC MATTER, little fine to							
	1'			coarse Grave			,	E	1A	
	-		`			AND and fine to coarse C	RAVEL, little Roots.			
	2'		2'	little Silt (Su			,,,	M	1A, 1B	
	_		2.5'			ND and fine to coarse GR	AVEL little Silt	111	****	
	3'		12.3	(Glacial Till		vid and thic to course of	ar voo, moe one	D		1, 2
	3		`	Excavator R	/	<del>-</del> 1		<del>                                     </del>	<del> </del>	1, 2
	4'			Excavator K	ciusai ai 2	,				
	4								+	
	٠,									
	5'						•			
	6'								-	
	7'									
	8,							<u></u>		
				1						-
	91			1						
	10'									
	11'	-								
							•			
	12'									
	13'		1					1		
									1	
	14'									
0777.6										-

- Excavator refusal on bedrock at 2.5 feet below grade.
   Groundwater not encountered in test pit.

TEST PIT PLAN			<u>LEGEND</u>					
	BOULDER	COUNT	PROP	ORTIONS	ABBREVIATIONS	EXCAV	ATION EFFOR	T
6'			τ	SED	F - Fine			
7////	Size Range	Letter			M - Medium	E - Easy		
<i>             </i>	Classification	Designation	TRACE (TR)	0-10%	C - Coarse	M - Moderate		
3			LITTLE (LI)	10-20%	F/M - Fine to Medium	D - Difficult		
	6" - 18"	Α	SOME (SO)	20-35%	F/C - Fine to Coarse			
, Ø ,	18" - 36"	В	AND	35-50%	V - Very	GRO	DUNDWATER	
North	36" and Larger	C			GR - Gray	Elapsed Time		
Depth = $2.5$ ft.		**			BN - Brown	to Reading	NE/ G	.W.L.
Volume = 1.5 cu.yd.					YEL - Yellow	(hours)	弄	

		TEST PIT FIELD LOG			
GZA GeoEnvir	onmental, Inc.	<u>PROJECT</u>		Test Pit No.	CSTP-24
Engineers and	Scientists	BNE Wind Turbine Project		File No.	44818.02
		Colebrook, CT		Date	7/21/2011
	e .	EXCAVATION EQUIPMENT			
GZA Engineer	T. Bjartmarz	Contractor HTS Construction	Grou	nd Elevation	1447'±
Weather	90s Sunny	Operator Bruce Remillard	Time	Started	756
		Make Volvo Model EC35	Time	Completed	800
		Capacity 0.25 cu.yd. Reach 15	ft.		
	T			Boulder	
Depth		SOIL DESCRIPTION	Exca	1	Remark
			Effe		No.
	0.5' Dark brown,	fine to coarse SAND and ORGANIC MATTER, little fin		20, 01	1101
1'		, trace Silt (Topsoil)	D	5A, 1B	
		o coarse SAND and fine to coarse GRAVEL, little Roots	3,		
2'	- little Silt (Su		D	3A, 1B	
3'	- 3'		D		]
	Gray, fine to	coarse SAND and fine to coarse GRAVEL, little Silt			
4'	- 4' (Glacial Till)		D		1, 2
	Excavator Re	fusal at 4"			
5'	-				
6'	-				
7'	-				
Ot .					
8'	-				
· 9'					
		•		_	
10'	_				
10			-		†
11'	_				
12'	-				
13'	-				
14'					

- 1. Excavator refusal on bedrock at 4 feet below grade.
- 2. Groundwater not encountered in test pit.

TEST PIT PLAN			<u>LEGEND</u>					
	BOULDER	COUNT	PROP	ORTIONS	ABBREVIATIONS	EXCAVATION EFFORT		ORT
8'			υ	SED	F - Fine			
	Size Range	Letter			M - Medium	E - Easy		
	Classification	Designation	TRACE (TR)	0-10%	C - Coarse	M - Moderate		
3'			LITTLE (LI)	10-20%	F/M - Fine to Medium	D - Difficult		
	6" - 18"	Α	SOME (SO)	20-35%	F/C - Fine to Coarse			
<del> </del>	18" - 36"	В	AND	35-50%	V - Very	GROUNDWATER		R
North.	36" and Larger	С			GR - Gray	Elapsed Time		
Depth = $\frac{4}{}$ ft.					BN - Brown	to Reading	NE	G.W.L.
Volume = 3 cu.yd.			L		YEL - Yellow	(hours)	¥	

Care   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Figure   Fig							TEST	PII FIELI	LOG			
Contractor   Signatural   Contractor   Make   More   Make   More   Make   More   Make   More   Make   More   Make   More   Make   Make   More   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Mak	GZA	GeoEr	viron	menta	l, Inc.			PROJECT		Tes	t Pit No.	CSTP-25
Contractor   Signatural   Contractor   Make   More   Make   More   Make   More   Make   More   Make   More   Make   More   Make   Make   More   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Make   Mak	Engin	eers ar	nd Sc	ientists	<b>,</b>		BN	E Wind Turbine Pi	roject		File No.	44818.02
Contractor   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   S	_								-		Date	7/21/2011
Contractor							EXC	AVATION EQUIL	MENT			
Depth   SOIL DESCRIPTION   Excav.   Effort   Gray, fine to coarse SAND and fine to coarse GRAVEL, some Silt   Glacial Till)   Gray, fine to coarse SAND and fine to coarse GRAVEL, some Silt   Glacial Till)   M	GZA	Engine	er	T. Bia	rtmarz	Contractor				Ground E	Elevation	1435'±
Make	E .	_				Operator				2		
Capacity   0.25   cu.yd   Reach   15   ft.									EC35	i		
Depth   SOIL DESCRIPTION   Excav.   Count Effort   Count   Effort   Count   Effort   Count   Effort   Count   Effort   Count   Effort   Count   Effort   Count   Effort   Count   Effort   Count   Effort   Count   Effort   Count   Effort   Count   Effort   Count   Effort   Count   Effort   Count   Effort   Count   Effort   Count   Effort   Count   Effort   Count   Effort   Count   Effort   Count   Effort   Count   Effort   Count   Effort   Count   Effort   Count   Effort   Count   Effort   Count   Effort   Count   Effort   Count   Effort   Count   Effort   Count   Effort   Count   Effort   Count   Effort   Count   Effort   Count   Effort   Count   Effort   Count   Effort   Count   Effort   Count   Effort   Count   Effort   Count   Effort   Count   Effort   Count   Effort   Count   Effort   Count   Effort   Count   Effort   Count   Effort   Count   Effort   Count   Effort   Count   Effort   Count   Effort   Count   Effort   Count   Effort   Effort   Effort   Count   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effort   Effo										ł		1010
Depth   SOIL DESCRIPTION   Excav.   Count Effort   Qty. Class.   No.						Cupucity			10 10			
Dark brown, fine to coarse SAND and ORGANIC MATTER, little fine to coarse Gravel, trace Silt (Topsoil)   Brown, fine to coarse Gravel, trace Silt (Topsoil)   Brown, fine to coarse GRAVEL, little Roots, little Silt (Subsoil)   Gray, fine to coarse SAND and fine to coarse GRAVEL, some Silt (Glacial Till)   M											1	
Dark brown, fine to coarse SAND and ORGANIC MATTER, little fine to coarse Gravel, trace Silt (Topsoil)   Brown, fine to coarse SAND and fine to coarse GRAVEL, little Roots, little Silt (Subsoil)   M		Depth				SOIL I	DESCRIP'	TION		Excav.	Count	Remark
Coarse Gravel, trace Silt (Topsoil)   M   3A, 1C										Effort	Qty. Class.	No.
Brown, fine to coarse SAND and fine to coarse GRAVEL, little Roots, little Slit (Subsoil)				0.5'	Dark brown,	fine to coa	rse SAND	and ORGANIC N	ATTER, little fine to			
Brown, fine to coarse SAND and fine to coarse GRAVEL, little Roots, little Silt (Subsoil)   M		1'		` \	coarse Grave	l, trace Silt	(Topsoil)	)		M	3A, 1C	
3'					Brown, fine t	to coarse Sa	AND and	fine to coarse GRA	AVEL, little Roots,			
3' (Glacial Till)		2'		2'	little Silt (Sul	bsoil)				M	2A	1
3' (Glacial Till)					Gray, fine to	coarse SAl	VD and fi	ine to coarse GRAV	EL, some Silt			
4'		31							•	М	1A	
5'												
5'		4'								м		
6' M M		,										
6' M M		51								м		
7' D 8' D 9' D 10' End of Exploration at 9.5' 12' 13'		2								101	<del> </del>	
7' D 8' D 9' D 10' End of Exploration at 9.5' 12' 13'		61								M		
8' D 2 9' D 10' End of Exploration at 9.5' 12' 13'		U								17/1	<b></b>	
8' D 2 9' D 10' End of Exploration at 9.5' 12' 13'		71										
9' 9.5' D 3 10' End of Exploration at 9.5' D 3 11' 12' 13'		1								IVI		
9' 9.5' D 3 10' End of Exploration at 9.5' D 3 11' 12' 13'		O.										^
10' End of Exploration at 9.5'  11'  12'  13'		8.								Ъ		2
10' End of Exploration at 9.5'  11'  12'  13'		01										
10' End of Exploration at 9.5'  11'  12'  13'		9'								<u> </u>	<u> </u>	
11' 12' 13'				9.5'						_		
11' 12' 13'		10'			End of Explo	ration at 9.	5'			D		3
12' 13'												
13'		11'										
13'												
		12'										
14'		13'										
14'												
		14'							<u> </u>			

- 1. Mottled soil observed at approximately 2 feet below grade.
- 2. Groundwater observed at 8 feet below grade.
- 3. Exploration terminated in glacial till.

TEST PIT PLAN	<u>v</u>		<u>LEGEND</u>										
		BOULDER	COUNT	PROPO	ORTIONS	ABBREVIATIONS	EXCAVATION EFFORT						
10'				U	SED	F - Fine							
		Size Range	Letter			M - Medium	E - Easy						
		Classification	Designation	TRACE (TR)	0-10%	C - Coarse	M - Moderate						
	3,			LITTLE (LI)	10-20%	F/M - Fine to Medium	D - Difficult						
K		6" - 18"	Α	SOME (SO)	20-35%	F/C - Fine to Coarse							
, , ,		18" - 36"	В	AND	35-50%	V - Very	GROUNDWA	TER					
North		36" and Larger	C			GR - Gray	Elapsed Time						
epth = 9.5	ft.					BN - Brown	to Reading 8'	G.W.L.					
olume≖ 8 c	u.yd,					YEL - Yellow	(hours) <u>\square</u>						

						TEST	PIT 1	FIELD	LOG				
GZA	GeoEr	iviror	menta	ıl, Inc.			PR(	ЭЕСТ			Tes	st Pit No.	CSTP-26
Engin	eers ar	nd Sc	ientist	5		BN	E Wind T	Turbine Pro	oject		İ	File No.	44818.02
								rook, CT				Date	7/21/2011
								N EQUIP	MENT				
	Engine	eer		artmarz	Contractor			struction			Ground I		1433'±
Weath	er		90s S	unny	Operator		Bruce Re				Time Sta		1130
					Make	Volvo		Model	EC35		Time Co	mpleted	1140
					Capacity	0.25	cu.yd.	Reach	15	ft.	ļ [']		
			Τ							<del></del>		Boulder	<u> </u>
	Depth				SOILE	DESCRIP	TION				Excav.	Count	Remark
	o opui				50121	20014	11011				Effort	Qty. Class.	No.
			0.5'	Dark brown.	fine to coa	rse SAND	and OR	GANIC M	ATTER, little	ine to	222010	Quy. Oxabb.	710.
	1'			coarse Grave				0121120112			М		
			`					arse GRA	VEL, little Roc	ots.	····		
	2'			little Silt (Su					· · · · · · · · · · · · · · · · · · ·	,	D		
			2.5'		,								
	3'			Gray, fine to	coarse SAl	ND and fir	ne to coa	rse GRAV	EL, some Silt	*	D		1
				(Glacial Till)					ŕ				
	4'			<u> </u>							D		
	51										D		
	6'										D	1A	
	7'		7'	ļ							D		2, 3
				End of Explo	oration at 7'								
	8'												
												-	
	9'		<b>.</b>										
	10'												
	11'												
	12'											ļ	
	101												
	13'			1									
	1.41												
****	14'										l	1	

- 1. Mottled soil observed at approximately 3 feet below grade.
- 2. Exploration terminated in glacial till.
- 3. Groundwater not encountered.

<u>T</u> )	EST PIT PL	AN			<u>LEGEND</u>						
			BOULDER	COUNT	PROPORTIONS		ABBREVIATIONS	EXCAVATION EFFORT		FORT	
	8	<u>'</u>			υ	SED	F - Fine				
		]	Size Range	Letter			M - Medium	E - Easy			
		7	Classification	Designation	TRACE (TR)	0-10%	C - Coarse	M - Moderate			
		3'			LITTLE (LI)	10-20%	F/M - Fine to Medium	D - Difficult			
	K		6" - 18"	A	SOME (SO)	20-35%	F/C - Fine to Coarse				
'	6	-	18" - 36"	В	AND	35-50%	V - Very	GF	ROUNDWAT	ER	
	North		36" and Larger	С			GR - Gray	Elapsed Time			
Depth =	7	ft.					BN - Brown	to Reading	NE	G.W.L.	
Volume	= 5	cu.yd.					YEL - Yellow	(hours)	¥		

				TEST PIT FIELD LOG			
GZA (	GeoEn	viror	mental, Inc.	PROJECT		t Pit No.	CSTP-27
Engin	eers ar	nd Sc	ientists	BNE Wind Turbine Project		File No.	44818.02
j				Colebrook, CT		Date	7/21/2011
				EXCAVATION EQUIPMENT			
GZA I	Engine	eer	T. Bjartmarz	Contractor HTS Construction	Ground E	levation	1432'±
Weath			90s Sunny	Operator Bruce Remillard	Time Star	ted	1050
				Make Volvo Model EC35	Time Cor	1100	
				Capacity 0.25 cu.yd. Reach 15 ft.	1	•	
						Boulder	
	Depth			SOIL DESCRIPTION	Excav.	Count	Remark
					Effort	Qty. Class.	No.
			1	1, fine to coarse SAND and ORGANIC MATTER, little fine to			
	1'			vel, trace Silt (Topsoil)	D	4A, 1C	
				e to coarse SAND and fine to coarse GRAVEL, little Roots,			
	2'		little Silt (S	Subsoil)	D	4A, 1B	1
			2.5'				
	3'		Gray, fine	to coarse SAND and fine to coarse GRAVEL, some Silt	D	3A	
			(Glacial Ti				
	4'				D		
	5'				D		
]	•						
	6'				D		
	Ü						
	7'		7'		D		2, 3
	,			eloration at 7'			2, 5
	8'			noration at 7			
	0					<del>                                     </del>	
	9'						
	7						
	10'						
	10						
	11'						<b></b>
	101						]
	12'					-	
	101						
	13'						
	1						
	14'				<u> </u>	<u> </u>	<u> </u>

- Mottled soil observed at approximately 3 feet below grade.
   Groundwater observed at 6 feet below grade.
   Exploration terminated in glacial till.

TEST PIT PLAN			<u>LEGEND</u>					
	BOULDER	COUNT	PROP	ORTIONS	ABBREVIATIONS	EXCAVATION EFFORT		
7'			U	SED	F - Fine			
7////	Size Range	Letter			M - Medium	E - Easy		
	Classification	Designation	TRACE (TR)	0-10%	C - Coarse	M - Moderate		
	,t		LITTLE (LI)	10-20%	F/M - Fine to Medium	D - Difficult		
K	6" - 18"	A	SOME (SO)	20-35%	F/C - Fine to Coarse			
160	18" - 36"	B	AND	35-50%	V - Very	GROUN	NDWATER	
North	36" and Larger	С			GR - Gray	Elapsed Time		
Depth = 7 f					BN - Brown	to Reading	6'/ G.W.L.	
Volume = 4 cu.y	đ.				YEL - Yellow	(hours)	<del>_</del>	

						<b>FEST</b>	PIT I	IELD	LOG				
GZA.	GeoEn	viror	menta	l, Inc.			PR(	<u> JECT</u>			Tes	t Pit No.	CSTP-28
Engin	eers ar	nd Sc	ientists	S		BN	E Wind T	urbine Pro	oject			File No.	44818.02
							Colebi	rook, CT				Date	7/21/2011
						EXC	AVATIO	N EQUIP	MENT				
GZA 1	Engine	eer	T. Bja	artmarz	Contracto:	r	HTS Con	struction			Ground E	levation	1436'±
Weath	er		90s S	unny	Operator		Bruce Re	millard			Time Star	ted	
					Make Volvo Model EC35					Time Cor	npleted		
					Capacity	0.25	cu.yd.	Reach	15	ft.			
			Γ									Boulder	1
١,	Depth				con r	DESCRIP	TION				Excav.	Count	Remark
1	Depui				SOLL	DESCKII	HON				Effort	Qty. Class.	No.
			0.51	Dork brown	fine to con	roe CANIT	and OP	CANTO M	ATTER, little	fine to	EHOIT	Qty. Class.	INU.
	1'		N	coarse Grave				JAINIC M	ATTEK, nuc	une io	М		
	1		`					arce GRA	VEL, little Ro	ato	101		
	2'			little Silt (Su		AND and	mie to co	atse CICA	VEL, IIIIE KO	Jis,	М	1B	
	_		2.5'	inthe Bilt (Bu	oson)						141	110	
	3'		4.5	Gray fine to	coarse SA	NID and fi	ne to con	ce CD AV	EL, some Silt		D		
	J			(Glacial Till)		IND and II	ne to coal	SC OICA V.	EL, SOME SIR				
	4'			(Glaciai IIII)	,						D		
	4											<del> </del>	
	5'										D		
	ر												
	6†										$\mid  \mid  \mid  \mid  \mid  \mid  \mid  \mid  \mid  \mid $		
	7'										l _D		
	,												
	8'		8,								D		1, 2
	V		۳	End of Explo	ration at 8'	I							.,
	9'			Lind of Zipic	ration at o								
	_												
	10'												
	~ 0								·				
	11'												
											······································	-	
	12'												
	13'												
	14'												
REMA	ARKS		•	<u></u>				•••			-	•	-

- Exploration terminated in glacial till.
   Groundwater not encountered in test pit.

TEST PIT PLAN			<u>LEGEND</u>					
	BOULDER	COUNT	PROPORTIONS		ABBREVIATIONS	EXCAVATION EFFORT		
61			U	SED	F - Fine			
	Size Range	Letter			M - Medium	E - Easy		
l <i>[/////</i> //	Classification	Designation	TRACE (TR)	0-10%	C - Coarse	M - Moderate		
3'			LITTLE (LI)	10-20%	F/M - Fine to Medium	D - Difficult		
K	6" - 18"	A	SOME (SO)	20-35%	F/C - Fine to Coarse			
' <i>'\</i> Ø '	18" - 36"	В	AND	35-50%	V - Very	GR	OUNDWATER	
North	36" and Larger	С			GR - Gray	Elapsed Time		
Depth = 8 ft.					BN - Brown	to Reading	NE G.W.I	L.
Volume = 4 cu.yd.					YEL - Yellow	(hours)	<del>\frac{1}{2}</del>	

		i i	EST	PIT F	IELD	LOG				
GZA GeoEnviro	nmental, In	nc.		PRO	JECT .		Te	st Pit No.	CSTP-29	
Engineers and S	cientists		BNI	E Wind Tu	irbine Pro	oject		File No.	44818.02	
				Colebra	ook, CT			Date	7/21/2011	
			EXC	AVATIO	V EQUIPI	MENT				
GZA Engineer	T. Bjartm	arz Contractor	I	HTS Cons	truction		Ground I	Elevation	1443'±	
Weather	90s Sunny	y Operator	I	Bruce Ren	nillard		Time Sta	Time Started		
		Make	Volvo		Model	EC35	Time Co	mpleted	1158	
		Capacity	0.25	cu.yd.	Reach	15 1	t.			
							Boulder	******		
Depth		SOIL D	ESCRIP7	ΠON			Excav.	Count	Remark	
							Effort	Qty. Class.	No.	
1'		rk brown, fine to coar arse Gravel, trace Silt		and ORG	ANIC M	ATTER, little fine to	M M	2A, 1B		
,		own, fine to coarse SA		fine to coo	ree GRA	VEL little Poots	101	2A, 1D		
2'	2' littl	le Silt (Subsoil)					М	3A ·		
		ay, fine to coarse SAN	ID and fir	ne to coars	e GRAV	EL, some Silt				
3'	(Gl	lacial Till)					D	1A		
<b></b> 4'							D	lA		
5'							D	3A		
6'	6'						D		1, 2	
	Enc	d of Exploration at 6'					1 -		-, -	
7'										
8'										
9' <b></b>										
10'										
11'										
12'										
13'			:							
14'										
·										

- 1. Exploration terminated in glacial till.
- 2. Groundwater not encountered in test pit.

TI	EST PIT PLA	<u>AN</u>			LEGEND						
		_	BOULDER	COUNT	PROP	ORTIONS	ABBREVIATIONS	EXCA	VATION EF	FORT	
	8'	1			υ	SED	F - Fine				
ŀ		1	Size Range	Letter			M - Medium	E - Easy			
		ł	Classification	Designation	TRACE (TR)	0-10%	C - Coarse	M - Moderate			
	<u> [[]]</u>	3'			LITTLE (LI)	10-20%	F/M - Fine to Medium	D - Difficult			
	K-		6" - 18"	Α	SOME (SO)	20-35%	F/C - Fine to Coarse				
ļ	6		18" - 36"	В	AND	35-50%	V - Very	GR	OUNDWAT	ER	
	North		36" and Larger	С			GR - Gray	Elapsed Time			
Depth =	6	ft.					BN - Brown	to Reading	NE	G.W.L.	
Volume	<del>=</del> 4	сцуф					YEL - Yellow	(hours)	Ť		

					TEST PIT FIELD LOG			
GZA	GeoEn	viror	ımenta	ıl, Inc.	PROJECT	Tes	t Pit No.	CSTP-30
Engin	eers ar	nd Sc	ientists	S	BNE Wind Turbine Project		File No.	44818.02
					Colebrook, CT		Date	7/21/2011
					EXCAVATION EQUIPMENT			
GZA :	Engine	eer	T. Bja	artmarz	Contractor HTS Construction	Ground E	levation	1449'±
Weath	ner		90s S	unny	Operator Bruce Remillard	Time Star	rted	
					Make Volvo Model EC35	Time Cor		
					Capacity 0.25 cu.yd. Reach 15 ft.			
				*****	London		Boulder	
	Depth				SOIL DESCRIPTION	Excav.	Count	Remark
						Effort	Qty. Class.	No.
		•	0.5		fine to coarse SAND and ORGANIC MATTER, little fine to			
	1'		` \		el, some Silt (Topsoil)	M	2A	
				Brown, fine	to coarse SAND and fine to coarse GRAVEL, little Roots,			
	2'		2'	little Silt (Su		M	2A	
					coarse SAND and fine to coarse GRAVEL, some Silt			
	3'			(Glacial Till)		D	2A	
	4'					D	24	
	4					D	2A	
	5'					D	2A	
	6'					D	2A	
	7'					D	2A	1, 2
	8,		8'	End of Expl	pratian at 91			
	9'			End of Explo	nation at 0			
	10'							
11'								
	12'							
	107							
	13'						-	
	14'							
DELC	ADEC			1			-	<u> </u>

- 1. Groundwater not encountered in test pit.
- 2. Test pit terminated in glacial till.

Г	TEST PIT PLAN			<u>LEGEND</u>					
ı		BOULDER	COUNT	PROP	ORTIONS	ABBREVIATIONS	EXCAVATION EFFORT		
ı	10'			U	SED	F - Fine			
Γ	7////	Size Range	Letter			M - Medium	E - Easy		
		Classification	Designation	TRACE (TR)	0-10%	C - Coarse	M - Moderate		
	3			LITTLE (LI)	10-20%	F/M - Fine to Medium	D - Difficult		
Γ	K	6" - 18"	A	SOME (SO)	20-35%	F/C - Fine to Coarse			
ı	1 K	18" - 36"	В	AND	35-50%	V - Very	GROU	NDWATER	
ı	North	36" and Larger	С			GR - Gray	Elapsed Time		
Ι	Depth = 8 ft.					BN - Brown	to Reading	NE/ G.W.L.	
-	Volume = 6 cu.yd.					YEL - Yellow	(hours)	<del>\frac{\frac{1}{2}}</del>	

						EST	PIT FIELI	LOG			
GZA	GeoEn	viron	menta	l, Inc.			<u>PROJECT</u>		Tes	t Pit No.	CSTP-31
Engin	eers ar	id Sci	ientists	3		$B_{i}$	NE Wind Turbine Pr	oject		File No.	44818.02
_							Colebrook, CT			Date	7/21/2011
						EX	CAVATION EQUIP	'MENT			
GZA.	Engine	er	T. Bja	artmarz	Contractor		HTS Construction		Ground E	levation	1443'±
Weath			90s S		Operator		Bruce Remillard		Time Star	ted	
ľ					Make	Volvo	Model	EC35	Time Cor	npleted	
					Capacity	0.25	cu.yd. Reach	15 ft.		•	
			·····		- mp						
										Boulder	
	Depth				SOIL D	ESCRI	PTION	Excav.	Count	Remark	
	0.5' Dark brow							<del> </del>	Effort	Qty. Class.	No.
			0.5'			IATTER, little fine to					
	1'		` \	coarse Grave					M		
						ND and	d fine to coarse GRA	VEL, little Roots,			
	2'			little Silt (Su	bsoil)				M		
			2.5'								
	3'			Gray, fine to	coarse SAN	ID and t	fine to coarse GRAV	EL, some Silt	M		
				(Glacial Till)							
	4'			1					D		
	5'								D		
	6'								D		
	7'		7'						D		1, 2
				End of Explo	oration at 7'						
	8'										
	9'										
	10'										
	11'										
	12'					÷					
			-								
	13'										
	14'								<u> </u>		

- 1. Exploration terminated in glacial till.
- 2. Groundwater not encountered in test pit.

ı	TEST PIT PLAN		LEGEND								
ı		BOULDEF	COUNT	PROP	ORTIONS	ABBREVIATIONS	EXCAV	ATION EF	FORT		
1	8'			ι	SED	F - Fine					
Γ	<i></i>	Size Range	Letter			M - Medium	E - Easy				
ı		Classification	Designation	TRACE (TR)	0-10%	C - Coarse	M - Moderate				
ı	3'			LITTLE (LI)	10-20%	F/M - Fine to Medium	D - Difficult				
Γ	K	6" - 18"	А	SOME (SO)	20-35%	F/C - Fine to Coarse			1		
ı	, <i>, ,</i>	18" - 36"	B	AND	35-50%	V - Very	GRO	DUNDWATE	ER		
ı	North	36" and Larger	C			GR - Gray	Elapsed Time		Ī		
]	Depth = 7   ft.					BN - Brown	to Reading	NE	G.W.L.		
E	Volume = 4 cu.yd	-				YEL - Yellow	(hours)	¥			

						EST	PIT FIEL	D LOG				
GZA	GeoEn	viror	menta	l, Inc.			<u>PROJECT</u>			Tes	t Pit No.	CSTP-32
Engin	eers ar	d Sc	ientists			$B\lambda$	IE Wind Turbine I	roject			File No.	44818.02
-							Colebrook, CI	,			Date	7/21/2011
						EXC	CAVATION EQU	PMENT				
GZA :	Engine	er	T. Bja	rtmarz	Contractor	•	HTS Construction	1		Ground E	Elevation	1432'±
Weath			90s St		Operator		Bruce Remillard			Time Star	rted	
					Make	Volvo	Model	EC35		Time Cor	npleted	
					Capacity	0.25	cu.yd. Reach	15	ft.			
									•		Boulder	
	Depth				SOIL L	DESCRIP	TION			Excav.	Count	Remark
	Depui				SOLL	LINGERIF	TION			Effort	Qty. Class.	No.
			0.5'	Dork brown	fine to coor	OA CANT	O and ORGANIC	MATTER BHI	fine to	Elloit	Qty. Class.	110.
	1'		 	coarse Grave				WATTEN, MUN	ime to	D	3A	
	1		/ /				fine to coarse GR	AVEL GHIAR	oote	D D	JA.	
	2'			little Silt (Su		מונג לנואו	Time to coarse div	A VEL, HUIC K	oois,	$\mid  \mid  \mid  \mid  \mid  \mid  \mid  \mid  \mid  \mid $	1B	
	4		\			ID and fi	ine to coarse GRA	VEL come Sil	h		10	
	31			(Glacial Till)		ND alle H	HIC W COAISC CINA	VEL, Some Sir	ı	D	2A	
	3			(Glaciai III)	,					<u> </u>	ZA	
	4'									D		
	4									<del></del>		
	5'									D		
	,									<u> </u>		
	6'									D		
	U											
	7'									l _D		
	′									<del></del>		
	8'		8'							D		1, 2
	U			End of Expl	oration at 8'							^, -
	9'		1	End of Expi	DI LLCON CLE O							
	10¹											
											<del>                                     </del>	
	11'											
										***************************************		
	12'											
											<del>                                     </del>	
	13'											
	~~										<u> </u>	
	14'											
77.5				<u> </u>							<del>'</del>	L

- 1. Exploration terminated in glacial till.
- 2. Groundwater not encountered in test pit.

T	EST PIT PLA	N.		<u>LEGEND</u>										
			BOULDER	COUNT	PROPORTIONS		ABBREVIATIONS	EXCAVAT	TION EFFORT					
	81				l u	SED	F - Fine							
		1	Size Range	Letter			M - Medium	E - Easy						
1 1		1	Classification	Designation	TRACE (TR)	0-10%	C - Coarse	M - Moderate						
1 [		3'			LITTLE (LI)	10-20%	F/M - Fine to Medium	D - Difficult						
	K-		6" - 18"	Α	SOME (SO)	20-35%	F/C - Fine to Coarse							
•	$\mathscr{A}'$	•	18" - 36"	В	AND	35-50%	V - Very	GROUI	NDWATER					
	North		36" and Larger	C			GR - Gray	Elapsed Time						
Depth =	8	ft.					BN - Brown	to Reading 1	NE/ G.W.L.					
Volume	= 6	cu.yd.					YEL - Yellow	(hours)	<u>_</u>					

				TEST PIT FIELD LOG			
GZA :	GeoEr	iviroi	mental, Inc.	PROJECT	Te	st Pit No.	CSTP-33
Engin	eers a	nd Sc	ientists	BNE Wind Turbine Project		File No.	44818.02
				Colebrook, CT		Date	7/21/2011
				EXCAVATION EQUIPMENT			
GZA I	Engine	eer	T. Bjartmarz	Contractor HTS Construction	Ground I	Elevation	1465'±
Weath			90s Sunny	Operator Bruce Remillard	Time Sta		
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				Make Volvo Model EC35	Time Co		
					ft.	mpreced	
				Cupacity 0.2.5 ca.ya. Reach 15	10.		
						Boulder	
]	Depth			SOIL DESCRIPTION	Excav.	Count	Remark
					Effort	Qty. Class.	No.
			0.5' Dark brown	, fine to coarse SAND and ORGANIC MATTER, little fine	to		
	1'		coarse Grav	el, little Silt (Topsoil)	D	1A	1, 2
				efusal at 0.5'		<u> </u>	<u> </u>
	2'						
1							
	3'						
	-						
	41						
	•						
	5'						
	J				***************************************		
	6'						
	v					1	
	7'						
	,				-	<del> </del>	
	81						
	0	-					
	9'						
	9					<u> </u>	
	1.01						
	10'					<del> </del>	
	11'						
	12'						
							j
	13'						
	14'					<u> </u>	

- Excavator refusal on bedrock at 0.5 feet below grade.
   Groundwater not encountered in test pit.

Ī	EST PIT PL	AN			<u>LEGEND</u>					
			BOULDER	COUNT	PROPORTIONS		ABBREVIATIONS	EXCAVATION EFFOR		FORT
	(	51			U	SED	F - Fine			
		1	Size Range	Letter			M - Medium	E - Easy		
		a	Classification	Designation	TRACE (TR)	0-10%	C - Coarse	M - Moderate		
		3'			LITTLE (LI)	10-20%	F/M - Fine to Medium	D - Difficult		
	<b>↑</b>		6" - 18"	A	SOME (SO)	20-35%	F/C - Fine to Coarse			
	Φ		18" - 36"	В	AND	35-50%	V - Very	G.	ROUNDWAT	ER
	North		36" and Larger	С			GR - Gray	Elapsed Time		
Depth =	= 0.5	_ ft.					BN - Brown	to Reading	NE	G.W.L.
Volume	= 0.2	cu.yd.					YEL - Yellow	(hours)	Ť	!

			TEST PIT FIELD LOG			
GZA GeoE	nviror	nmental, Inc.	PROJECT	Tes	t Pit No.	CSTP-34
Engineers a			BNE Wind Turbine Project		File No.	44818.02
			Colebrook, CT		Date	7/21/2011
			EXCAVATION EQUIPMENT			
GZA Engin	eer	T. Bjartmarz	Contractor HTS Construction	Ground E	levation	1450'±
Weather		90s Sunny	Operator Bruce Remillard	Time Star	ted	808
'' •			Make Volvo Model EC35	Time Cor	npleted	817
			Capacity 0.25 cu.yd. Reach 15 ft.		1	
						1
					Boulder	_
Depth			SOIL DESCRIPTION	Excav.	Count	Remark
			<u> </u>	Effort	Qty. Class.	No.
		IN I	, fine to coarse SAND and ORGANIC MATTER, little fine to			
1'			el, trace Silt (Topsoil)	D	1A	1, 2
			to coarse SAND and fine to coarse GRAVEL, little Roots,			
2 ¹		little Silt (St	ıbsoil)			
		2.5'				
3'		1 7	coarse SAND and fine to coarse GRAVEL, some Silt			
		3.5' (Glacial Till		]		
4'		Excavator R	efusal at 3.5'			
5'						
6'						
7'					1	
8'		1 .				
9'						
10'						
11'					<u> </u>	<u> </u>
					,	
12'					<b></b>	
13'						
14'				<u> </u>	<u> </u>	

- Excavator refusal on bedrock at 3.5 feet below grade.
   Groundwater not encountered in test pit.

	TEST PIT PLAN				LEGEND						
		BOULDER	COUNT	PROPORTIONS		ABBREVIATIONS	EXCAVATION EFFOI		FORT		
	6'			ι	SED	F - Fine					
	1////	Size Range	Letter	ļ		M - Medium	E - Easy				
1		Classification	Designation	TRACE (TR)	0-10%	C - Coarse	M - Moderate				
	3			LITTLE (L1)	10-20%	F/M - Fine to Medium	D - Difficult				
	<u> </u>	6" - 18"	Α	SOME (SO)	20-35%	F/C - Fine to Coarse					
1	. Ф.	18" - 36"	В	AND	35-50%	V - Very	GR	OUNDWAT	ER		
1	North	36" and Larger	C			GR - Gray	Elapsed Time				
Dep	sth = 3.5 ft.					BN - Brown	to Reading	NE	G.W.L.		
Vol	ume = 2 cu.yo	1.				YEL - Yellow	(hours)	¥			

				EST	PIT I	IELE	LOG				
GZA GeoEn						<u>)ЈЕСТ</u>			Tes	t Pit No.	CSTP-35
Engineers ar	id Sc	ientists		BN		urbine Pro	oject			File No.	44818.02
						ook, CT				Date	7/21/2011
						N EQUIP	MENT				
GZA Engine	eer	T. Bjartmarz	Contractor		HTS Con				Ground E		1453'±
Weather		90s Sunny	Operator		Bruce Re				Time Star		825
			Make	Volvo		Model	EC35		Time Cor	npleted	830
			Capacity	0.25	cu.yd.	Reach	15	ft.	]		
		l .	<u></u>							Boulder	i .
Depth			SOIL I	DESCRIP'	TION				Excav.	Count	Remark
Бория			DOLL	Locidi	11011				Effort	Qty. Class.	No.
		0.5' Dark brown	fine to coa	se SAND	and OR	GANIC M	ATTER, little	fine to	Diroit	110.	
1'			el, little Silt			511110171	211 1131, 11110	inc to	D		1, 2
•			Refusal at 0.5								^, ~
2'			corasar ar ore								
_										<del></del>	
3'											
										<del>                                     </del>	
4'											
5'											
6'											
Ŭ		ł								<u> </u>	
7'											
,											
8¹											
Ů										<del>                                     </del>	
9'		ļ									
10'											
^ 0										<u> </u>	
11'											
**										<u> </u>	
12'											
										1	
13'									[		
- 5										<u> </u>	
14'											
DEMARKS		LL								1	

- Excavator refusal on bedrock at 0.5 feet below grade.
   Groundwater not encountered in test pit.

TEST	TEST PIT PLAN				LEGEND						
			BOULDER	COUNT	PROP	ORTIONS	ABBREVIATIONS	EXCA	VATION EF	FORT	
	6'				ι	SED	F - Fine				
		1	Size Range	Letter			M - Medium	E - Easy			
			Classification	Designation	TRACE (TR)	0-10%	C - Coarse	M - Moderate			
		3'			LITTLE (LI)	10-20%	F/M - Fine to Medium	D - Difficult			
			6" - 18"	A	SOME (SO)	20-35%	F/C - Fine to Coarse				
	$\leftarrow$		18" - 36"	В	AND	35-50%	V - Very	GF	ROUNDWAT	ER	
	North		36" and Larger	C			GR - Gray	Elapsed Time			
Depth=	0.5	ft.					BN - Brown	to Reading	NE	G.W.L.	
Volume =	0,2	cu.yd.					YEL - Yellow	(hours)	¥		

					Ţ	EST PIT FIELD LOG				
GZA (	GeoEn	viror	menta	l, Inc.		<u>PROJECT</u>		Tes	t Pit No.	CSTP-36
Engin	eers ar	id Sc	ientists	\$	1	BNE Wind Turbine Project			File No.	44818.02
						Colebrook, CT			Date	7/21/2011
						EXCAVATION EQUIPMENT				
GZA I	Engine	er	T. Bia	artmarz	Contractor	HTS Construction		Ground E	levation	1447'±
Weath			90s St		Operator	Bruce Remillard		Time Star		
, Cati			7000		Make	Volvo Model EC35		Time Cor		
					Capacity	0.25 cu.yd. Reach 15	ft.	I mine oor	приссе	
					Capacity	0.23 Cd.yd. Redon 13	10.			
-									Boulder	
]	Depth				SOIL D	ESCRIPTION		Excav.	Count	Remark
							Effort	Qty. Class.	No.	
			0.5'	Dark brown,	fine to coar	le fine to				
	1'			coarse Grave	el, trace Silt	(Topsoil)		M		
			`			ND and fine to coarse GRAVEL, some	Silt,			
	2'		2'	little Roots (			,	М		
	_					D and fine to coarse GRAVEL, some S	ilt			
	3'			(Glacial Till)				M		
	J			(Graeiai Trii)	,					
	4'							D		
	-+							———		
	5'							D		
	Ş							<u> </u>	<u> </u>	
	Z1							D		
	6'							<u> </u>		
	7'							D	<b>-</b>	
	8'		81					D		1, 2
				End of Expl	oration at 8'					
	9'									
	10'									
	11'	-								
	12'									
	13'									
	14'									
×2.773. 5			-							•

- Exploration terminated in glacial till.
   Groundwater observed at 7.5 feet below grade.

TEST PIT PLAN			<u>LEGEND</u>						
	BOULDER	COUNT	PROP	DRTIONS	ABBREVIATIONS	EXCAVATION EFFORT		FORT	
8'			U	SED	F - Fine				
	Size Range	Letter			M - Medium	E - Easy			
	Classification	Designation	TRACE (TR)	0-10%	C - Coarse	M - Moderate			
3' .			LITTLE (LI)	10-20%	F/M - Fine to Medium	D - Difficult			
<u></u>	6" - 18"	Α	SOME (SO)	20-35%	F/C - Fine to Coarse				
, Ø ,	18" - 36"	В	AND	35-50%	V - Very	GF	ROUNDWAT	ER	
North	36" and Larger	С			GR - Gray	Elapsed Time			
Depth = 8 ft.					BN - Brown	to Reading	7.51	G.W.L.	
Volume = 6 cu.yd.					YEL - Yellow	(hours)	<del></del>		

						EST	PIT F	ŒLD	LOG				
GZA (	3eoEn	viron	menta	l, Inc.			PROJ	ECT			Tes	t Pit No.	CSTP-37
Engine	ers an	d Sci	entists	3		BN	E Wind Tw	rbine Pro	ject			File No.	44818.02
							Colebro					Date	8/22/2011
						EXC	AVATION		ÆNT.				
GZA I	ngine	er	Curt J	ones (Civil1)	Contractor		HTS Const				Ground E	levation	1431'±
Weath		•	70s S		Operator		Bruce Rem				Time Star		
11 000	•.		, 02 2		Make	Volvo		Model	EC35		Time Cor		
					Capacity	0.25		Reach	15	ft.	THE COL	iipiowa.	
				Ouptienty 0.25 caryan rector								<u> </u>	
											Boulder		
I	Depth				SOIL	ESCRIP	TION				Excav.	Count	Remark
			A OLUMBON OF A POPERT LITTED							Effort	Qty. Class.	No.	
			0.8'	TOPSOIL an	OPSOIL and FOREST LITTER								
	1'			Orange-brow	n, fine SAND, some Silt (Subsoil)								
							`						
	2'		2.2'										
				Gray, fine SA	AND, little	Silt, trace	Cobbles (C	Blacial Ti	<u>ll)</u>			1	
	3'			,		,			,				
	_												
	4'												
	7												
	5'												
	3			İ								-	
	CI.												
	6'												
	<b>-</b>		- a)										
	7'		7.2'	T 1 07 1		<u> </u>							
				End of Explo	oration at 7.	2'							
	81												
	9'												
i													
	10'												
ł													
	11'												
	12'											l	
	13'												
											,,,,,,,,,,,		
	14'												
DEM	DIFO		Ь	J							•		·*···

- 1. Exploration terminated in glacial till.
- 2. Groundwater not encountered.
- 3. Excavation effort and boulder count not recorded. Test pit plan not recorded.

<u>T</u> 1	EST PIT PLA	N				L	EGEND			
			BOULDER	COUNT	PROP	ORTIONS	ABBREVIATIONS	EXCA	VATION EI	FORT
					υ	SED	F - Fine			
			Size Range	Letter			M - Medium	E - Easy		
1 1			Classification	Designation	TRACE (TR)	0-10%	C - Coarse	M - Moderate		
		burter			LITTLE (LI)	10-20%	F/M - Fine to Medium	D - Difficult		
			6" - 18"	Α	SOME (SO)	20-35%	F/C - Fine to Coarse			
	0 '		18" - 36"	В	AND	35-50%	V - Very	GR	ROUNDWAT	ER
	North		36" and Larger	С			GR - Gray	Elapsed Time		
Depth =	7.2	ft.					BN - Brown	to Reading	NE	G.W.L.
Volume	±	cu.yd.					YEL - Yellow	(hours)	<u></u>	

						EST	PIT FIEL	DLOG			
GZA (	GeoEn	viror	mental	, Inc.			PROJECT		Tes	t Pit No.	CSTP-38
Engine	eers ar	nd Sc	ientists			$B\lambda$	VE Wind Turbine P	roject		File No.	44818.02
, i							Colebrook, CT	<del>-</del>		Date	8/22/2011
						EXC	CAVATION EQUI				
GZA I	ngine	er	Cart Jo	ones (Civil1)	Contractor		HTS Construction		Ground E	levation	1446'±
Weath			70s Su		Operator		Bruce Remillard		Time Star		
, v cata			700 30	,,,,,,	Make	Volvo	Model	EC35	Time Cor		
					Capacity	0.25	cu.yd. Reach	15 ft.		npieted	
					Capacity	0.23	cu.yu. Keach				
										Boulder	]
J	Depth	pth SOIL DESCRIPTION							Excav.	Count	Remark
		Topsoil							Effort	Qty. Class.	. No.
				Topsoil				•			
	1'										ľ
			1.5'								
	2'			Orange-brow	n, fine SAl	ND, some	Silt (Subsoil)		1		
				Ü	•						
	3'		3'								
			-	Gray, fine SAND, little Silt, trace Cobbles (Glacial Till)							
	4'			Gray, into Br	11 12, 111110	one, arace	Coooles (Clasia	*****)			
	7										
	5'										
	5									<del> </del>	
	6'										
	O										1
	71										
	7'										<u> </u>
	01									ļ	
	8'		81	- 1 A- 1							
				End of Explo	oration at 8'						
	9'									<u> </u>	
	10'										
	11'										
	12'									<u> </u>	
	13'										
	14'										
DEM	DIZO										

- 1. Exploration terminated in glacial till.
- 2. Groundwater not encountered.
- 3. Excavation effort and boulder count not recorded. Test pit plan not recorded.

<u>T</u>	EST PIT PLA	<u>AN</u>				. <u>T</u>	<u>EGEND</u>			
			BOULDER	COUNT	PROP	ORTIONS	ABBREVIATIONS	EXCA	VATION EFF	FORT
					ι	SED	F - Fine			
		1	Size Range	Letter			M - Medium	E - Easy		
			Classification	Designation	TRACE (TR)	0-10%	C - Coarse	M - Moderate		
		1 1			LITTLE (LI)	10-20%	F/M - Fine to Medium	D - Difficult		
			6" - 18"	Α	SOME (SO)	20-35%	F/C - Fine to Coarse			
		•	18" - 36"	В	AND	35-50%	V - Very	GR	OUNDWATE	R
ł	North		36" and Larger	C			GR - Gray	Elapsed Time		
Depth =	. 8	ft.					BN - Brown	to Reading	NE	G.W.L.
Volume	;=	си.yd.					YEL - Yellow	(hours)	¥	

					EST			LOG				
GZA GeoEi	oviror	menta	l, Inc.			PRC	<u>JECT</u>			Tes	t Pit No.	CSTP-39
Engineers a					BN	E Wind T	urbine Pro	ject			File No.	44818.02
							ook, CT	-			Date	8/22/2011
					EXC		N EQUIPI	MENT				
GZA Engin	eer	Curt I	ones (Civil1)	Contractor		HTS Cons				Ground E	levation	1437'±
Weather		70s St		Operator		Bruce Rea				Time Star		
W CHINOI		703 51	unity	Make	Volvo	Didec ite	Model	EC35		Time Cor		
				Capacity	0.25	cu.yd.	Reach	15	ft.	I TIME CO.	приска	
				Сараску		cu.yu.	Keach	13	11.			
			1								Boulder	
Depth				SOIL I	DESCRIP	TION				Excav.	Count	Remark
										Effort	Qty. Class.	No.
		<u> </u>	Topsoil									
1'		l ₁ ,	, open									į
1		١	Brown, fine	SAND som	e Silt (Si	ubsoil)					<del>                                     </del>	
2'			Brown, inte	Di 11 (12), 5011	ie sii (si	4000117				ŀ		
2		2.5'								ļ	<u> </u>	
3'		2.5	Gray, fine SA	A NITO gamea	C:1+ (C!1-	ala1 T211)						:
3			Gray, line SA	AND, some	SIII (Gia	ciai IIII)					<u> </u>	
4'			1									
5'		ļ										
6'												
7'												
		7.5'								,		
8'			End of Explo	oration at 7.	5'							
9'												
10'										]		
10											ļ .	
11'												
12'												
12										·		
101												] .
13'	-											<del>                                     </del>
14'			I .							<u> </u>	<u> </u>	<u> </u>

- 1. Exploration terminated in glacial till.
- 2. Groundwater not encountered. Mottled soil observed at 4 feet below grade.
- 3. Excavation effort and boulder count not recorded. Test pit plan not recorded.

T	EST PIT PLA	<u>N</u>				<u>I</u>	<u>EGEND</u>			
			BOULDER	COUNT	PROP	ORTIONS	ABBREVIATIONS	EXCA	VATION EF	FORT
1.					τ	SED	F - Fine			
			Size Range	Letter			M - Medium	E - Easy		
		1	Classification	Designation	TRACE (TR)	0-10%	C - Coarse	M - Moderate		
					LITTLE (LI)	10-20%	F/M - Fine to Medium	D - Difficult		
			6" - 18"	Α	SOME (SO)	20-35%	F/C - Fine to Coarse			
1		•	18" - 36"	В	AND	35-50%	V - Very	GF	ROUNDWAT	ER
	North		36" and Larger	C			GR - Gray	Elapsed Time		
Depth =	7.5	ft.					BN - Brown	to Reading	NE	G.W.L.
Volume	=	cu.yd.					YEL - Yellow	(hours)	Ξ́	

					T	EST	PIT I	IELD	LOG				
GZA (	3eoEr	viron	menta	l, Inc.			PRO	)JECT			Tes	t Pit No.	CSTP-40
Engine						BN		urbine Pro	ject			File No.	44818.02
								ook, CT	,			Date	8/22/2011
						EXC		N EQUIPI	MENT				
GZA I	ngine	er	Curt J	ones (Civil1)	Contractor		HTS Con				Ground E	levation	1440±
Weath			70s S		Operator		Bruce Re				Time Star		
1, 000	OI .		7000		Make	Volvo	Brace rec	Model	EC35		Time Cor		
					Capacity	0.25	cu.yd.	Reach	15	ft.	Time Co.	iipicica	
					Сараспу	0.23	cu.yu.	Reacii		11.			
												Boulder	
1	Depth				SOIL D	ESCRIP	TION				Excav.	Count	Remark
											Effort	Qty. Class.	No.
			0.5'	Topsoil									
	1'			Brown, fine	SAND, som	e Silt (Su	ıbsoil)						
				,	,	`	/			ľ	<u> </u>		
	2'												
	_		2.5'							ŀ			
	3'		2.5	Gray, fine SA	AND some	Silt (Glad	cial Till)			-			
	3			Chay, the Sr	TIND, SOILE	om (Om	orar 1111)			ŀ			
	4'												
	7									ŀ			
	51												
	3											<u> </u>	
	<b>C</b> †												
	6'												
	7'									- 1			
			7.5'										
	81			End of Explo	oration at 7.5	5'				- 1			
				Ì									
	91			<u> </u>								ļ	
	10'									L			
ŀ													
	11'			ļ									
	12'												
						÷				ſ			
·	131			ļ.									
										ſ			
	14'												
												<del> </del>	·

- 1. Exploration terminated in glacial till.
- 2. Groundwater not encountered. Mottled soil observed at 4 feet below grade.
- 3. Excavation effort and boulder count not recorded. Test pit plan not recorded.

			1	<u>EGEND</u>		
BOULDER	COUNT	PROPO	ORTIONS	ABBREVIATIONS	EXCAV.	ATION EFFORT
		U	SED	F - Fine		
Size Range	Letter			M - Medium	E - Easy	
Classification	Designation	TRACE (TR)	0-10%	C - Coarse	M - Moderate	
		LITTLE (LI)	10-20%	F/M - Fine to Medium	D - Difficult	
6" - 18"	Α	SOME (SO)	20-35%	F/C - Fine to Coarse		
18" - 36"	В	AND	35-50%	V - Very	GRO	UNDWATER
36" and Larger	C			GR - Gray	Elapsed Time	
				BN - Brown	to Reading	NE G.W.L.
				YEL - Yellow	(hours)	₹
	Size Range Classification 6" - 18" 18" - 36"	Classification Designation  6" - 18" A  18" - 36" B	Size Range Letter Classification Designation TRACE (TR) LITTLE (LI) 6" - 18" A SOME (SO) 18" - 36" B AND	BOULDER COUNT         PROPORTIONS	Size Range	BOULDER COUNTPROPORTIONS USEDABBREVIATIONS F - FineEXCAV. M - MediumSize RangeLetterM - MediumE - EasyClassificationDesignationTRACE (TR) $0-10\%$ C - CoarseM - ModerateLITTLE (LI) $10-20\%$ F/M - Fine to MediumD - Difficult6" - 18"ASOME (SO) $20-35\%$ F/C - Fine to Coarse $18" - 36"$ BAND $35-50\%$ V - VeryGRO36" and LargerCGR - GrayElapsed TimeBN - Brownto Reading

		1	EST PIT I	TELD	LOG			
GZA GeoEnviro	nmental, Inc.		PRO	<u>)JECT</u>		Tes	t Pit No.	CSTP-41
Engineers and So			BNE Wind T	urbine Pro	ject		File No.	44818.02
			Colebi	rook, CT			Date	8/22/2011
			EXCAVATIO	N EQUIPN	ÆNT .			
GZA Engineer	Curt Jones (Civil1)	Contractor	HTS Con	struction		Ground E	levation	1436±
Weather	70s Sunny	Operator	Bruce Re	millard		Time Star	ted	
	•	Make	Volvo	Model	EC35	Time Cor	npleted	
1		Capacity	0.25 cu.yd.	Reach	15 ft.		-	
	·/	1 , -					T 50 11 1	
		COT TO				<b></b>	Boulder	
Depth		SOIL D	ESCRIPTION			Excav.	Count	Remark
					Effort	Qty. Class.	No.	
	Topsoil							
1'	1'			/m a 445				
	1 1 '	SAND, some	e Silt, trace Roots	(Subsoil)				
2'	2'							
	Gray, fine SA	AND, some S	Silt (Glacial Till)					
3'								
4'								
5'							ļ	
<b></b> 6'								
								-
7'	7'							
	End of Explo	oration at 7'						·
8'								
9'								
10'								
11'								
12'								
13'								
14'	<u> </u>							

- 1. Exploration terminated in glacial till.
- 2. Groundwater not encountered. Mottled soil observed at 3.3 feet below grade.
- 3. Excavation effort and boulder count not recorded. Test pit plan not recorded.

TI	ST PIT PLA	Z				<u>L</u>	<u>EGEND</u>			
			BOULDER	COUNT	PROP	ORTIONS	ABBREVIATIONS	EXCA	VATION EI	FORT
					τ	SED	F - Fine			
ľ	/////		Size Range	Letter			M - Medium	E - Easy		
l Ľ			Classification	Designation	TRACE (TR)	0-10%	C - Coarse	M - Moderate		
[					LITTLE (LI)	10-20%	F/M - Fine to Medium	D - Difficult		
			6" - 18"	A	SOME (SO)	20-35%	F/C - Fine to Coarse			
	0		18" - 36"	В	AND	35-50%	V - Very	GF	ROUNDWAT	ER
	North		36" and Larger	С			GR - Gray	Elapsed Time		
Depth =	7	ft.					BN - Brown	to Reading	NE/	G.W.L.
Volume	<del>=</del>	cu.yd.					YEL - Yellow	(hours)	¥	

						EST	PIT 1	IELD	LOG			
GZA (	GeoEn	viron	menta	l, Inc.			PRO	JECT		Tes	t Pit No.	CSTP-42
Engine						BN	VE Wind T	urbine Pro	oject		File No.	44818.02
Ĭ							Colebr	ook, CT	•		Date	8/22/2011
						EXC	CAVATIO		MENT			
GZA I	Engine	er	Curt J	ones (Civil1)	Contractor		HTS Con			Ground E	levation	1436±
Weath			70s St		Operator		Bruce Re			Time Star	rted	
					Make	Volvo		Model	EC35	Time Cor		
					Capacity	0.25	cu.yd.	Reach	15 ft	-	1	
	·····									T = 44	,	
		epth SOIL DESCRIPTION								Boulder		
]	Depth				SOIL I	DESCRIP	TION			Excav.	Count	Remark
										Effort	Qty. Class.	No.
				Topsoil								
	1'		0.8'									
				Brown, fine	SAND, som	ne Silt (S	ubsoil)					
	2'		2'									
				Gray, fine SA	AND, some	Silt (Gla	cial Till)					
	3'											
	4'											
	5'											
			ŀ									
	6'											
			İ									
	7'											
			7.5'			-						
	8'			End of Explo	oration at 7.	5'				1		
				<b>1</b>								
	9'											
	10°											
	11'											
	12'											
											†	
	13'											
	14'										1	
77.77. (												1

- 1. Exploration terminated in glacial till.
- 2. Groundwater not encountered. Mottled soil observed at 4 feet below grade.
- 3. Excavation effort and boulder count not recorded. Test pit plan not recorded.

TEST PIT I	PLAN					Ī	<u>EGEND</u>		
			BOULDER	COUNT	PROP	ORTIONS	ABBREVIATIONS	EXCAVATI	ON EFFORT
[	1				U	SED	F - Fine		
7///	7		Size Range	Letter			M - Medium	E - Easy	
	2		Classification	Designation	TRACE (TR)	0-10%	C - Coarse	M - Moderate	
					LITTLE (LI)	10-20%	F/M - Fine to Medium	D - Difficult	
			6" - 18"	Α	SOME (SO)	20-35%	F/C - Fine to Coarse		
. 0	•		18" - 36"	В	AND	35-50%	V - Very	GROUN	DWATER
North			36" and Larger	C			GR - Gray	Elapsed Time	
Depth = 7	.5	ft.					BN - Brown	to Reading N	G.W.L.
Volume =	Cı	u.yd.					YEL - Yellow	(hours) $\frac{\checkmark}{=}$	<del>/</del>

						<b>FEST</b>	PIT I	IELD	LOG				
				al, Inc.	]			DJECT			1	t Pit No.	CSTP-43
Engin	eers ar	nd Sc	ientist	S		BN		Turbine Pro	oject			File No.	44818.02
								rook, CT				Date	8/22/2011
						EXC	CAVATIO	N EQUIP	MENT				
GZA I	Engine	er	Curt.	Jones (Civil1)	Contracto:		HTS Con				Ground E		1446±
Weath	ıer		70s S	Sunny	Operator		Bruce Re	millard			Time Star		
					Make	Volvo		Model	EC35		Time Cor	npleted	
					Capacity	0.25	cu.yd.	Reach	15	ft.			
<u> </u>		-	1									Boulder	
,	Donth				SOIL I	DESCRIP	TION				Excav.	Count	Remark
]	Depth				SOIL	JESCKI	11011				Effort	Qty. Class.	No.
			-	Topsoil							Elloit	Qty. Class.	110.
	1'		0.8'	Topson									
	1		0.6	Brown, fine	CAND con	ne Silt (S		<u> </u>		<u> </u>			
	2'		2'	Diown, inc	3/LIND, 301	e) me on	ubson)				1		
	4		├─	Gray, fine SA	AND some	Silt (Gla	rcial Till)						
	3'			Gray, Time 52	nuo, some	one (On	war i iii j						
	J												
	4'		ł										
	7			•									···
	5'											1	
	ر		İ									<del> </del>	
	6'.												
	U												
	7'		7'									İ	
	,		·	End of Explo	eration at 7								
	81			Lind of Linpid	Julion ut 7								
	Ü											<u> </u>	
	91												
	10'												
	10												
	11'												
	12'												
				1								1	
	13'												1
	14'												
L			L										

- 1. Exploration terminated in glacial till.
- 2. Groundwater not encountered. Mottled soil observed at 3 feet below grade.
- 3. Excavation effort and boulder count not recorded. Test pit plan not recorded.

TEST PI	T PLA	<u>N</u>		<u>LEGEND</u>											
			BOULDER	COUNT	PROP	ORTIONS	ABBREVIATIONS	EXCAVATION EFFO		FORT					
1					U	SED	F - Fine								
777	///		Size Range	Letter			M - Medium	E - Easy							
			Classification	Designation	TRACE (TR)	0-10%	C - Coarse	M - Moderate							
					LITTLE (LI)	10-20%	F/M - Fine to Medium	D - Difficult							
			6" - 18"	Α	SOME (SO)	20-35%	F/C - Fine to Coarse								
Ċ	) '		18" - 36"	В	AND	35-50%	V - Very	GF	ROUNDWAT	ER					
No	orth		36" and Larger	С			GR - Gray	Elapsed Time							
epth ≕	7	ft.					BN - Brown	to Reading	NE	G.W.L					
olume =		cu.yd.					YEL - Yellow	(hours)	¥						

						EST PI	FIELI	D L	OG			
GZA (	GeoEn	viron	menta	l, Inc.		-	PROJECT			Tes	t Pit No.	CSTP-44
Engin	eers at	nd Sc	ientists	S		BNE Wir	d Turbine Pr	roject	•		File No.	44818.02
							lebrook, CT				Date	8/22/2011
							TION EQUIF		T	· · · · · ·		
GZA I	Engine	er	Curt 1	Jones (Civil1)	Contractor		Construction			Ground E	levation	1308±
Weath			70s S		Operator		Remillard			Time Star		
W Chai	101		7000	dittiy	Make	Volvo	Model	EC	C35	Time Cor		
					Capacity	0.25 cu.			15 ft.		приски	
					Сараспу	0.23 Cu.	vu. Keacii	******	13 11.	4		
											Boulder	
]	Depth				SOIL D	ESCRIPTION				Excav.	Count	Remark
											Qty. Class.	No.
	Topsoil									Effort		
	1'		0.7'									
	-			Brown, fine	SAND, som	e Silt (Subsoil	i					
	2'				511 (2), 5011	(540501)	,					
	_		2.5'							<u> </u>		
	31		2.3	Grov. fine S	AND some	Silt (Glacial Ti	11)		<del> </del>	-	ł	
	3		i	Gray, thie 57	AND, Some	Siii (Giaciai 1:	11)			<b></b>		
	41											
	4'									-	<u> </u>	
	5'											
					•							İ
	6'											
												1
	7'		7'								ļ	
				End of Explo	oration at 7'							
*********	8'			1								
				Į.		•					-	
	9'											
				ŀ								
	10'											
	11'						-			1		
	12'											
	13'											
1											<del> </del>	
	14'											
DEL C	ADVO			1	•					ı	1	-

- 1. Exploration terminated in glacial till.
- 2. Groundwater not encountered. Mottled soil observed at 3.5 feet below grade.
- 3. Excavation effort and boulder count not recorded. Test pit plan not recorded.

2	TEST PIT PLA	Ņ		<u>LEGEND</u>										
			BOULDER	COUNT	PROP	ORTIONS	ABBREVIATIONS	EXCA	FORT					
					τ	SED	F - Fine							
	7////		Size Range	Letter			M - Medium	E - Easy						
			Classification	Designation	TRACE (TR)	0-10%	C - Coarse	M - Moderate						
					LITTLE (LI)	10-20%	F/M - Fine to Medium	D - Difficult						
			6" - 18"	A	SOME (SO)	20-35%	F/C - Fine to Coarse							
	. 0	•	18" - 36"	В	AND	35-50%	V - Very	GR	OUNDWATI	ER				
	North		36" and Larger	C			GR - Gray	Elapsed Time						
Depth:	= 7	ft.					BN - Brown	to Reading	NE	G.W.L.				
Volum	e =	cu.yd.					YEL - Yellow	(hours)	¥					

					T	EST	PIT I	TELD	) LO	G				
GZA	GeoEn	viron	mental, In	ıc.	I		PRO	JECT				Tes	t Pit No.	CSTP-45
			ientists			BN		urbine Pro	oject				File No.	44818.02
								ook, CT	5				Date	8/22/2011
						EXC.		N EQUIPI	MENT					
GZA :	Engine	eer	Curt Jone	s (Civil1)	Contractor	]	HTS Con	struction				Ground E	levation	1306±
Weath			70s Sunn		Operator		Bruce Re					Time Star	ted	
					Make	Volvo		Model	EC3	35		Time Cor	npleted	
					Capacity	0.25	cu.yd.	Reach		15	ft.		-	
													7 70 11	<del></del>
	D d .				COTE IN	reenma	TION					E	Boulder	D
	Depth				SOIL D	ESCRIP'	HON					Excav.	Count	Remark
			lm:									Effort	Qty. Class.	No.
	11		1'	psoil										
	1'			E !	SAND, som	~ CH (C		.,						
	21				AND, some									
	2'			ay, iine SA	AND, some	Siit (Giac	ciai iiii)							
	21													
	3'													
	41													
	4'													
	5'													
	Э.													
	6'													
	0												<del> </del>	
	71		₋₇ ,											
	7'		7'	d of Events	oration at 7'									
	8'		En	id of Expid	ration at /									
	ŏ												-	
1	9'													
	9												<b></b>	
	10'													
	10													
	11'													
	11													
	12'													
	1.2													
	13'													
	13												<del>                                     </del>	
	14'													
	14												1	L

- 1. Exploration terminated in glacial till.
- 2. Groundwater not encountered. Mottled soil observed at 2 feet below grade.
- 3. Excavation effort and boulder count not recorded. Test pit plan not recorded.

<u>T</u> ]	EST PIT PL	AN.		<u>LEGEND</u>										
			BOULDER	COUNT	PROP	ORTIONS	ABBREVIATIONS	EXCAVATION EFFORT		FORT				
		-			τ	SED	F - Fine							
		1	Size Range	Letter			M - Medium	E - Easy						
		4	Classification	Designation	TRACE (TR)	0-10%	C - Coarse	M - Moderate						
		//// I		LITTLE (LI)	10-20%	F/M - Fine to Medium D - Difficult								
			6" - 18"	Α	SOME (SO)	20-35%	F/C - Fine to Coarse							
1	0	_	18" - 36"	В	AND	35-50%	V - Very	GF	ROUNDWAT	ER				
	North		36" and Larger	С			GR - Gray	Elapsed Time						
Depth =	7	ft.					BN - Brown	to Reading	NE	G.W.L.				
Volume	<b></b>	cu.yd.					YEL - Yellow	(hours)	₹					

						<b>EST</b>	PIT FIEL	D LOG				
GZA (	GeoEr	viron	menta	l, Inc.			PROJECT			Tes	st Pit No.	CSTP-46
Engin	eers ar	nd Sci	ientists	S		BN	E Wind Turbine P	roject			File No.	44818.02
							Colebrook, CT	· ·			Date	8/22/2011
						EXC	AVATION EQUI	PMENT				
GZA I	Engine	eer	Curt J	Jones (Civil1)	Contractor		HTS Construction			Ground F	Elevation	1326±
Weath			70s S		Operator		Bruce Remillard			Time Sta		
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			7000		Make	Volvo	Model	EC35		Time Co		
					Capacity	0.25	cu.yd. Reach	15	ft.		приссы	
					Capacity		Cu.yu. Reach		11.			
											Boulder	
] ]	Depth		Į		SOIL I	DESCRIP	TION			Excav.	Count	Remark
										Effort	Qty. Class.	No.
***				Topsoil								
	1'		0.8'	-								
				Orange-brow	n, fine SAl	ND, some	Silt (Subsoil)					
	2'				*	,	,					ł
			2.5'							**************************************		
	3'			Gray, fine SA	AND and S	LT (Glac	ial Till)					
	3			Gray, inic in	in to talle b.	ET (GIGE	, idi 1111)				+	
	4'											
	7											
	5'											
	)										-	
	6'		6'									
	0		<u> </u>	E-1-6P1								
				End of Explo	oration at 6'							
	7'											
	<b>8</b> ^t					_						
	9'											
	10'											
	11'											
	12'											
	13'			}								
	14'											
DEM	DIZC										1	·

- 1. Exploration terminated in glacial till.
- 2. Groundwater not encountered. Mottled soil observed at 2.5 feet below grade.
- 3. Excavation effort and boulder count not recorded. Test pit plan not recorded.

<u>T</u> ]	EST PIT PLA	<u>AN</u>		<u>LEGEND</u>										
			BOULDER	COUNT	PROP	ORTIONS	ABBREVIATIONS	EXCAVATION EFFORT						
		<u> </u>			τ	SED	F - Fine							
		1	Size Range	Letter			M - Medium	E - Easy						
1 1		1	Classification	Designation	TRACE (TR)	0-10%	C - Coarse	M - Moderate						
		1 —			LITTLE (LI)	10-20%	F/M - Fine to Medium	D - Difficult						
			6" - 18"	A	SOME (SO)	20-35%	F/C - Fine to Coarse		•					
	0	-	18" - 36"	В	AND	35-50%	V - Very	GR	ROUNDWAT.	ER				
	North		36" and Larger	С			GR - Gray	Elapsed Time						
Depth ≃	6	ft.					BN - Brown	to Reading	NE	G.W.L.				
Volume	=	cu.yd.					YEL - Yellow	(hours)	¥					

					TEST PIT FIELD LOG								
GZA	GeoEn	viror	menta	l, Inc.				)JECT					CSTP-47
Engin	eers ar	nd Sc	ientists	3		$B\lambda$	IE Wind T	urbine Pro	ject			File No.	44818.02
								ook, CT				Date	8/22/2011
			•			EXC	CAVATIO	N EQUIPI	MENT				
GZA.	Engine	eer	Curt J	ones (Civil1)	Contractor	٠	HTS Con	struction			Ground E	levation	1328±
Weath	ner		70s S	unny	Operator		Bruce Re	millard			Time Star	rted	
					Make	Volvo		Model	EC35		Time Cor	npleted	
					Capacity	0.25	cu.yd.	Reach	15	ft.			
			_		L							Boulder	
	D (1				COIL E	ייי מייט מיי	TOTAL T				Excav.	Count	Remark
	Depth				SOIL L	ESCRIP	HON						
<b></b>			<b>_</b>	Im :1							Effort	Qty. Class.	No.
l	- 11			Topsoil									
	1'		0.8'	0 1	C C ()		<del></del>						
	21			Orange-brow	n, tine sar	ND, some	Sur (Sun	8011)					
	2'								i				
	a.		2.2'	0 6 6	· 107	7 DC /CH	1.00111					1 .	
	31			Gray, fine SA	AND and SI	LI (Glac	ciai (iii)						
	41												
	4'											ļ	
	5'												
	<i>C</i> 1		<u></u>										
	6'		6'	D	-C1-+C							<u> </u>	
	71			Excavator Re	erusal at 6								
	7'												
	O1												
	81											<del></del>	
İ	9'												
	9												
	10'												
	10												
	11'												
	11												
	12'												
	12											+	
	13'		1										
	1.3											<u> </u>	
	14'												
	1.4			1							L	1	<u> </u>

- 1. Excavation effort and boulder count not recorded. Test pit plan not recorded.
- 2. Mottled soil observed at 2.2 feet below grade.
- 3. Excavator refusal on bedrock at 6 feet below grade.

TH	ST PIT PLA	<u>N</u>	<u>LEGEND</u>											
			BOULDER	COUNT	PROP	ORTIONS	ABBREVIATIONS	EXCAVATION EFFORT						
					υ	SED	F - Fine							
			Size Range	Letter			M - Medium	E - Easy						
]_ [		}	Classification	Designation	TRACE (TR)	0-10%	C - Coarse	M - Moderate						
[	//////	1			LITTLE (LI)	10-20%	F/M - Fine to Medium	D - Difficult						
			6" - 18"	A	SOME (SO)	20-35%	F/C - Fine to Coarse							
	0		18" - 36"	В	AND	35-50%	V - Very	GRO	DUNDWATI	ER				
	North		36" and Larger	C			GR - Gray	Elapsed Time						
Depth =	6	ft.					BN - Brown	to Reading	4	G.W.L.				
Volume	=	cu.yd.					YEL - Yellow	(hours)	₹					